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UNITED STATES DEPARTMENT OF AGRICULTURE

Bureau of Agricultural Economics

FARM ADJUSTMENTS IN THE SOUTH CENTRAL STATES

TO MEET DEFENSE AND POST-WAR NEEDS

Little Rock, Arkansas

December, 1941

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attempt to defeat aggres-

Adequate food supplies have always been of particular importance in determining the outcome of major wars. The present world conflict is no exception. Food again will play a vital part in winning the war and in shaping the terms of peace. American farmers, in carrying out the policy of the United States to provide with food the nations that are resisting aggression, have an essential role to play. Fortunately, measures sponsored by Department agencies to prevent soil erosion, increase the use of soil-building crops and to better planning of crops and livestock enterprises, places the farmer in a better position to play this vital role.

Conditions arising out of the emergency will stimulate adjustments in agricultural production because of changes in the prices to be received by farmers and changes in farm expenses. These adjustments will vary from one agricultural region to another. It is appropriate, therefore, that changes now under way and in prospect in the supply of and demand for agricultural products, be analyzed (1) in the light of the needs of the war emergency period, and (2) with respect to desirable adjustments.

As a segment of a larger national report, estimates have been made of the changes in production in the South Central States that are expected to occur, and the changes that are desirable. These estimates have been prepared by type-of-farming areas within each State and summarized on a subregional basis. This material was prepared before national goals were established and was used to some extent in formulating State goals that would harmonize with the national goals. In preparing the 1943-45 estimates, agricultural programs were assumed to remain approximately the same as at present and the effects of special programs designated to stimulate various lines of production were not taken into account.

The immediate production adjustment problem of the South Central States arises chiefly from the reduction of market outlets for cotton and wheat and the need to find profitable alternative uses for a large part of the acreage and labor formerly devoted to these two crops.

The position of southern farmers is decidedly different from the position of producers in most other sections of the country. In general, adjustments that are needed now to meet defense needs are in the same direction as desirable long-time changes. To make these adjustments will require changing systems of farming which will be far more difficult than expanding production of commodities now being produced.

Many obstacles - such as small farms, lack of capital, production and marketing difficulties, inadequate equipment, low yields of feed grains and pasture, and farmer inexperience - will retard the shifts in production adjustments needed to meet new world conditions. Changing the production pattern of southern agriculture will call for strong leadership and careful guidance if the desired adjustments are to be made quickly and with minimum danger of repercussions when the emergency period is over.

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ACKNOWLEDGMENT

This preliminary report for the South Central States, a segment of a national report, was prepared by farm management specialists of the Bureau of Agricultural Economics with the informal cooperation of representatives of the State Agricultural Experiment Stations and Extension Services. Data obtained from the Soil Conservation Service and the Agricultural Adjustment Administration, and conferences with personnel of these agencies were helpful in the preparation of the report.

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FARM ADJUSTMENTS IN THE SOUTH CENTRAL STATES TO MEET DEFENSE AND POST-WAR NEEDS 1/

INTRODUCTION

Conditions Have Changed

Significant adjustments have been made in southern agriculture during the past 10 years and other important adjustments would have been necessary even under peacetime conditions, but the further curtailment of cotton and wheat exports as a result of the war has accentuated the adjustment problem.

The average annual gross value of cotton lint during the 5-year period 1935-39, was less than half the average annual value during the 5-year period 1925-29 (table 1). This reduction in value was caused by a 43-percent decrease in price and a 14-percent reduction in production. Exports also declined materially, and during the late thirties averaged only about 60 percent as high as during the late twenties. Domestic consumption during the two periods was about the same.

Table 1.- Changes in the United States cotton and wheat situation, 1925-29 and 1935-39

| Item | Unit | 1925-29 | 1935-39 |
|---------------------------------------|--------------|-----------|---------|
| Cotton: | | | |
| Price (per pound) | Cents | 17.17 | 9.74 |
| Gross value of lint (average annual) | :1,000 dol. | 1,310,970 | 640,226 |
| Production | :1,000 bales | 15,268 | 13,149 |
| Exports | :1,000 " | 8,194 | 5,081 |
| Domestic consumption | :1,000 " | 6,735 | 6,931 |
| Wheat: | | | |
| Price (per bushel) | Cents | 116.2 | 79.7 |
| Gross value (average annual) | :1,000 dol. | 956,180 | 608,065 |
| Production | :1,000 bu. | 822,712 | 763,092 |
| Exports | :1,000 bu. | 154,381 | 63,039 |
| Index prices paid by farmer <u>1/</u> | Percent | 155 | 124 |

1/ August 1909-July 1914 = 100.

1/ This report was prepared under the leadership of E. L. Langsford, Paul S. McComas, and George Townsend, area staff members of the Bureau of Agricultural Economics.

The wheat situation is similar to that of cotton. The average annual gross value of wheat during the period 1935-39 was only about two-thirds as great as during the period 1925-29, a situation which resulted from a 31 percent decrease in price and a 7 percent decrease in production. Wheat exports during the late thirties were only about 40 percent as large, as during the late twenties.

Agricultural adjustment programs have been instituted for cotton and wheat, as well as for other crops. Increased emphasis has been given to the conservation of soil and timber. Governmental programs designed to help low-income farmers have been inaugurated.

Farmers in the five South Central States reduced cotton acreage nearly 50 percent between 1930 and 1940, and cotton production decreased 24 percent (table 2). Wheat acreage decreased 6 percent during this period. Feed-grain acreages increased approximately 27 percent. Hay acreage increased 64 percent. The reduction of 25 percent in the number of workstock, brought about by increased use of tractors, has released feed for other livestock. All cattle numbers increased nearly 23 percent, and the number of cows milked increased 15 percent. Hog numbers were 44 percent higher in 1940 than in 1930. A slight reduction in farm population occurred between 1930 and 1940, whereas the average size of farm increased 23 percent.

Further changes are needed. Unutilized land, under-utilized labor, and low cash incomes make continued adjustments in Southern farming imperative.

Recent Changes

The present world conflict has intensified the problems of cotton and wheat producers. Cotton exports during the 1940-41 crop year were only slightly over a million bales, as compared with an average annual export of over 6 million bales during the decade 1930-40. Although domestic consumption of American cotton for the 1940-41 crop year reached a high of approximately 9 $\frac{1}{2}$ million bales, the carry-over of cotton in the United States on August 1, 1941, was approximately 12 $\frac{1}{2}$ million bales. Wheat exports during 1941 probably will be less than 40 million bushels, compared with an annual average of 61 million bushels during the past decade. The total supply of wheat for 1941-42, including winter wheat, spring wheat, and the 1941 carry-over, may be 1,295 million bushels, which will be the largest on record.

Table 2.- Changes in farming, South Central States, 1920, 1930,
and 1940 ^{1/}

| Item | Unit | 1920 | 1930 | 1940 | Change 1930-40 |
|--------------------------|--------|---------|---------|---------|-------------------|
| | | 1,000 | 1,000 | 1,000 | Percent |
| Total population | Number | 12,033 | 14,187 | 15,248 | 7.5 |
| Farm population | do | 6,479 | 6,669 | 6,454 | -3.2 |
| Number of farms | do | 1,268 | 1,416 | 1,256 | -11.3 |
| Average acreage per farm | Acres | (150) | (142) | (175) | 23.2 |
| Farms operated by: | | | | | |
| Full owners | Number | 475 | 403 | 450 | 11.7 |
| Croppers | do | 243 | 386 | 258 | -33.2 |
| Land Use: | | | | | |
| All land in farms | Acres | 191,235 | 201,239 | 219,683 | 9.2 |
| Cropland harvested | do | n.a. | 63,435 | 56,425 | -11.0 |
| Cropland, idle or fallow | do | n.a. | 5,757 | 8,714 | 51.4 |
| Woodland | do | 36,764 | 34,076 | 32,328 | -5.1 |
| Crops: | | | | | |
| Cotton | Acres | 21,101 | 30,363 | 15,372 | -49.4 |
| Cotton | Bales | 6,112 | 8,996 | 6,847 | -23.9 |
| Corn for all purposes | Acres | 11,249 | 9,447 | 11,635 | 23.2 |
| Wheat | do | 2,726 | 3,018 | 2,830 | -6.2 |
| Oats, barley and rye | do | 3,940 | 2,655 | 4,007 | 50.9 |
| Grain sorghums for grain | do | 2,636 | 2,453 | 2,840 | 15.8 |
| Rice | do | 766 | 655 | 744 | 13.6 |
| Sugar cane for sugar | do | n.a. | 212 | 258 | 21.2 |
| Total hay | do | 5,307 | 5,357 | 8,767 | 63.7 |
| Livestock: | | | | | |
| Horses and mules | Number | 4,862 | 4,030 | 2,990 | -25.8 |
| All cattle | do | 11,356 | 9,483 | 11,650 | 22.9 |
| Cows milked | do | n.a. | 1,825 | 2,096 | 14.8 |
| Sheep and lambs | do | 3,073 | 5,722 | 9,100 | 59.0 |
| All swine | do | 7,131 | 3,226 | 4,632 | 43.6 |
| Chickens | do | 46,261 | 48,635 | 47,399 | -2.5 |

^{1/} Includes Oklahoma, Texas, Louisiana, Mississippi, and Arkansas.

In a recent memorandum, Secretary Wickard made the following statement: "Assurance of adequate food supplies, not only for the United States but, under the Lend-Lease Act, for Great Britain and other nations resisting aggression, makes it necessary to increase substantially the production of pork, dairy products, eggs, poultry, dried beans, and vegetables, and to at least maintain the production of feed grains, fruits, beef, and lamb at present levels". To provide the supplies of these items needed at home and abroad will necessitate immediate and significant adjustments in agricultural production. To encourage production, minimum prices of 9-dollar hogs, 31-cent butter, 22-cent eggs, and 15-cent chickens have been set up.

The supplementary cotton program, with 25 million dollars for payments in stamps redeemable for cotton goods has absorbed a small part of the shock of reduction in cotton exports. It has also caused a decrease in the 1941 cotton acreage.

Availability of more industrial jobs and service in the armed forces will partially relieve the present agricultural population pressure in the South and, thereby, facilitate more extensive systems of production. The immediate effect of this exodus, however, will mean an increase in the cost of production of commodities that have large labor requirements.

Problems Now Facing Southern Farmers

The effects of the war and our defense program upon American agriculture are highly variable by commodities and by sections of the country. Most agricultural products that are normally exported are adversely affected. This means that cotton, tobacco, and wheat are dark spots in the demand picture, even though domestic consumption will probably be higher than average. Dairy and poultry products, meats, wool, fruits, and vegetables are bright spots, although their adequate production presents a problem.

The major immediate problem facing southern farmers is to find profitable alternative enterprises partially to replace cotton and wheat. In many areas this will, perhaps, mean more extensive farming systems and increased production of food crops for home consumption. This can mean more distress for crops less intensive than cotton will probably cause further displacement of farm families but, it should result in a more wholesome living for the people who remain on farms.

Particularly in Arkansas, Louisiana, and Mississippi, the agricultural resources are small in relation to the present population. The land in farms and the land in crops per rural inhabitant in these States are each less than one-half that for the United States, and the gross cash income per capita is only one-half that for the United States (table 3).

Table 3.- Comparison of selected items, per farm inhabitant, for South Central States, and for the United States, 1939

| Item | : Unit | : Ark- :ansas | :Louis- :iana | :Mississ- :ippi | :Okla- :homa | :Texas | : Area : total | : Total : U. S. : |
|----------------------------------|-----------|------------------|------------------|--------------------|-----------------|--------|-------------------|----------------------|
| Total land area | : Acres | 30.4 | 33.9 | 21.6 | 47.6 | 78.3 | 47.4 | 63.2 |
| Land in farms | : do. | 16.2 | 11.7 | 13.7 | 37.4 | 63.9 | 34.0 | 35.2 |
| Cropland | : do. | 6.9 | 5.4 | 5.7 | 17.0 | 15.3 | 10.7 | 13.2 |
| Cropland idle | : do. | .8 | .6 | .4 | 1.9 | 2.3 | 1.4 | 1.9 |
| All cattle | : Number | .88 | 1.23 | .81 | 2.36 | 2.92 | 1.78 | 2.01 |
| Cows milked | : do. | .36 | .29 | .33 | .71 | .16 | .33 | .73 |
| All swine | : do. | .76 | .80 | .59 | .82 | .70 | .72 | 1.13 |
| All poultry | : do. | 5.68 | 4.90 | 4.32 | 9.71 | 10.12 | 7.34 | 11.21 |
| Gross cash in- come <u>1/</u> | : Dollars | 144 | 158 | 120 | 207 | 263 | 190 | 283 |

1/ Gross income from the sale of crops, livestock, and livestock products, and from government payments.

United States Department of Agriculture, 1940. Agricultural Statistics:1939.

Much of the soil in these States is not naturally fertile. The loss of soil productivity resulting from poor management and from erosion has further reduced yields and lowered levels of living. Nearly 60 percent of the total land area, exclusive of large cities, has been materially affected by erosion and nearly 20 percent has been either destroyed for tillage or severely eroded (table 4). To retard erosion means more careful cultural practices and, in many cases, a reduction of row crops and an increase in small grains, hay, and pasture.

Table 4.- Erosion condition of land in four South Central States 1/

| Item | : Area | : Proportion of total area |
|-----------------------------------------------------|----------------------|-------------------------------|
| | : <u>1,000 acres</u> | : <u>Percent</u> |
| Total area (exclusive of large cities and water) | : 138,205 | : 100.0 |
| Slight erosion | : 46,444 | : 33.6 |
| Moderate erosion | : 56,118 | : 40.6 |
| Severe erosion | : 12,745 | : 9.2 |
| Essentially destroyed for tillage | : 12,609 | : 9.1 |
| Mountains | : 10,289 | : 7.5 |

1/ Includes Texas, Oklahoma, Arkansas, and Louisiana.

United States Department of Agriculture, Yearbook of Agriculture, 1938.
Soils and Men.

There is need for better diets for a large part of the people who live on farms in the South. A considerable amount of the products needed to provide these better diets could be produced on southern farms. To provide the quantities of those commodities which could be produced on southern farms and which are needed for a minimum adequate diet for the present farm population in the five South Central States would require an increase of about 20 percent in the acreage of both cropland and pasture land, over the acreage now used for that purpose (table 5).

Table 5.- Numbers of livestock and acreage used to produce farm food and feed, and increases needed to supply a minimum adequate diet, South Central States ^{1/}

| Item | : Unit : | Used for farm: Food and feed. | Needed increase |
|--------------------------------------|----------|----------------------------------|--------------------|
| | : | 1,000 | 1,000 |
| Livestock: | : | | |
| Dairy cows | : Head | 1,945 | 439 |
| Other cattle | : do. | 1,718 | 1,367 |
| Hogs | : do. | 4,574 | 1,446 |
| Hens for eggs | : do. | 29,570 | 10,740 |
| Chickens for meat | : do. | 66,317 | 23,256 |
| | : | | |
| Crops: | : | | |
| Direct food crops | : Acres | 3,248 | 1,795 |
| Grain | : do. | 14,536 | 2,264 |
| Roughage | : do. | 4,444 | 416 |
| Total cropland | : do. | 22,228 | 4,475 |
| Pasture (present carrying capacity): | : do. | 25,938 | 6,155 |
| Total acreage | : do. | 48,166 | 10,630 |
| | : | | |

^{1/} Based upon 1940 farm population and on per capita food consumption and production estimates obtained from a study (Food, Feed, and Southern Farms) made in 1937 in the five South Central States.

A greater production of livestock and other food products for sale and for greater home consumption, along with a careful allocation of the reduced cotton acreage, will help southern farmers meet the changing condition. These adjustments are in the right direction to meet defense needs and postwar conditions.

Basic Assumptions

In making the estimates found in later pages of this report, certain assumptions were made. Three time periods were considered: (1) actual conditions in 1939 were used as a base point, (2) 1943-45, and (3) long-time (15 years hence).

Assumed Situation, 1943-45

The assumed conditions for 1943-45 (1944) were as follows:

- (1) Continuation of war with an all-out defense program; or if the war should end, a "world rehabilitation program" having as great an effect on industrial activity in the United States.
- (2) Full utilization of all available nonfarm labor, except one million for turnover and 1.5 million for military purposes.
- (3) Increases in capacity to produce raw and semifinished materials in whatever degree would be necessary to bring about such full labor utilization.
- (4) No increase in taxation sufficient to absorb increase in national income payments to individuals which would occur under the resultant increase in industrial activity.
- (5) Continuation of agricultural programs, and loans on basic commodities at 85 percent of parity.
- (6) Cotton crop between 20 and 22 million acres harvested.
- (7) Wheat crop not to exceed 55 million harvested acres.
- (8) Agricultural adjustment programs comparable to those now in effect.
- (9) Prices which are assumed to reflect the above conditions (table 28).

The "expected" situation represents estimated average production, 1943-45, resulting from changes which farmers are likely to make in response to the above assumption.

Assumed Long-Time Situation

The assumed conditions for the long-time situation were as follows:

- (1) Prices at levels which prevailed in the period 1935-39 (table 29).
- (2) Cotton crop between 20 and 22 million acres harvested.
- (3) Wheat acreage harvested not to exceed 55 million acres.
- (4) Agricultural programs similar to those now in effect. It was assumed, however, that cotton acreages might be modified by areas, but that the total State acreage would not exceed its share of the 20-22 million acre crop.

The "long-time desirable" adjustments represent estimates of changes that are needed to conserve soil, develop well-balanced and profitable farming systems, and adjust production to probable demand. These adjustments should be regarded as net changes for each area, none of which should be considered without the others. For example, in Subarea 1, although a reduction of 33 percent in cotton acreage is indicated, the desirability of this reduction is entirely dependent on a reduction of 35 percent in the number of farms, a 121 percent increase in oats acreage, a 54 percent increase in beef and veal production, and many other adjustments. Moreover, it is expected that decreases in present depleting acreages will occur only as the alternatives become more profitable than existing farming systems. If alternative employment opportunities are kept open, skills for new enterprises are developed, and necessary credit and development assistance is provided, the alternatives are likely to be adopted. The changes are expected to increase the total productivity of the area and the incomes of the people remaining on farms. Incomes of the people who leave the farm would also increase, since only those finding favorable employment in industry or farming in other areas would leave the farm.

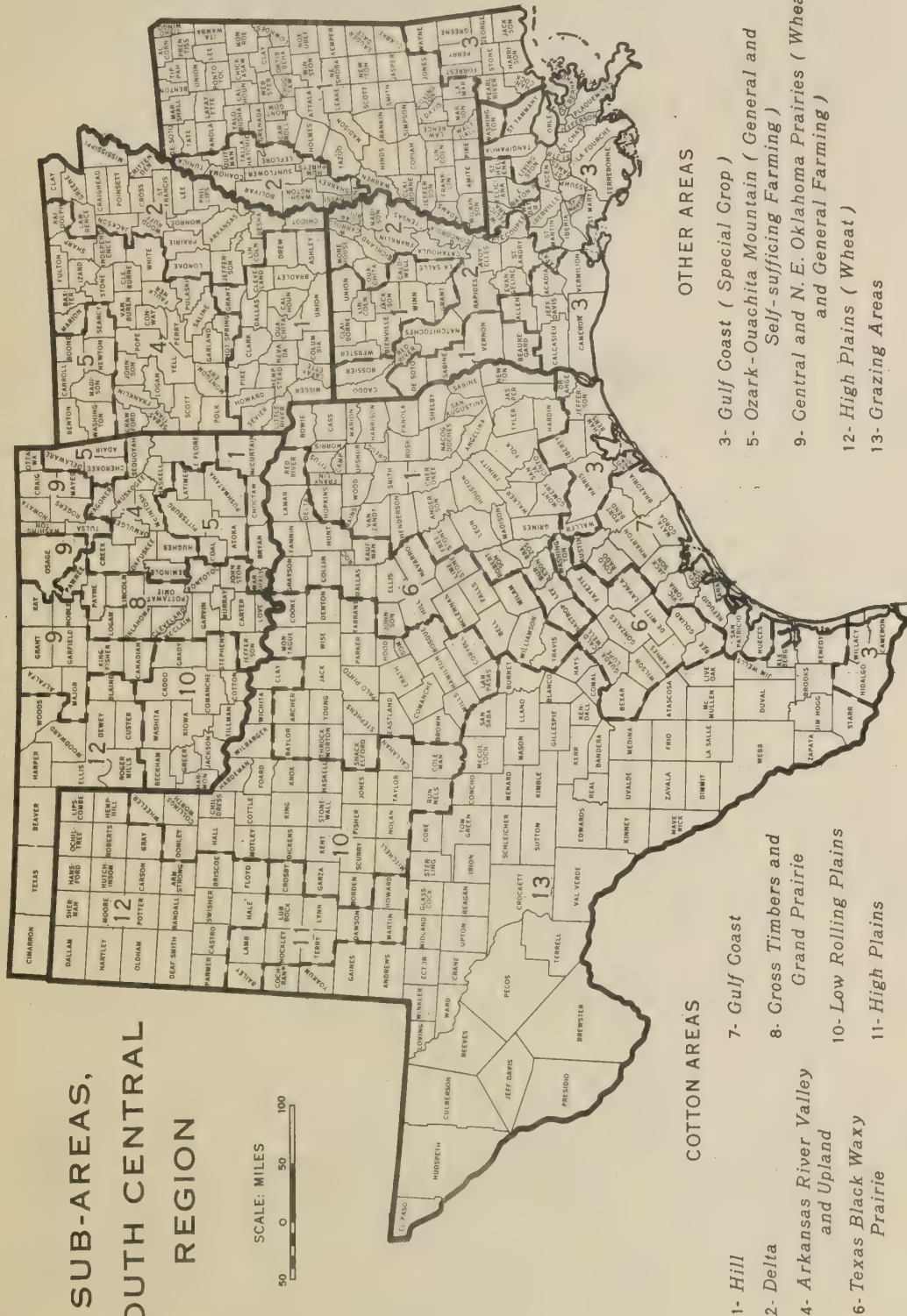
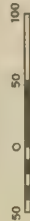
A description of the terminology and methodology used in the preparation of this report is contained in the appendix.

ADJUSTMENTS BY SUBAREAS AND STATES

Farmer response to the changes in the agricultural situation will not and should not be the same in all parts of the South. For this reason the five South Central States have been delineated into thirteen subareas (figure 1) on the basis of similar adjustment problems and alternatives that are compatible with the conservation of resources and larger farm incomes.

SUB-AREAS, SOUTH CENTRAL REGION

SCALE: MILES



COTTON AREAS

- 1- Hill
- 2- Delta
- 4- Arkansas River Valley and Upland
- 6- Texas Black Waxy Prairie
- 7- Gulf Coast
- 8- Cross Timbers and Grand Prairie
- 10- Low Rolling Plains
- 11- High Plains

OTHER AREAS

- 3- Gulf Coast (Special Crop)
- 5- Ozark-Ouachita Mountain (General and Self-sufficing Farming)
- 9- Central and N.E. Oklahoma Prairies (Wheat and General Farming)
- 12- High Plains (Wheat)
- 13- Grazing Areas

Farm management material for these areas together with information furnished by the Agricultural Marketing Service, Agricultural Adjustment Administration, Soil Conservation Service, Experiment Stations, and Extension Service, have been used in estimating the adjustments that will and should take place in each subarea. Summary tables by subareas and by States, together with a brief description and analysis of the agriculture in each subarea are presented in this section of the report.

Hill Areas of Mississippi, Louisiana, Arkansas,
Oklahoma, and East Texas

Subarea 1

All these areas were combined into one large subregion largely because they have similar adjustment problems and alternatives from the standpoint of soil conservation and improving farm incomes. The Brown Loam area and Lime Belt of Mississippi are quite different in respect to soils and size of holdings and are better adapted to pasture than are the rest of the hill areas. However, as the beef or dairy enterprises seem to be the best alternatives here just as in the other hill areas, and since more pasture, cover crops, and hay land are needed in all hill areas for soil conservation, they were combined with the Sandy Loam--Piney Woods areas of Mississippi, Louisiana, Arkansas, Texas, and Oklahoma, when farm adjustments were considered.

In this subregion there are about 64 million acres of land and 429 thousand farms with a total farm acreage of 35,500,000 and a crop acreage of 13,317,000. For the most part, it is a region of small holdings, and more than half the land is farmed by owner-operators, with the help of family labor. Most of the area consists of easily tilled, acid, sandy, coastal plains soils. Soil erosion and leaching present a difficult soil management problem and much of the present cropland, which was not very productive even in its virgin state, has been rendered marginal for intensive use. Heavy applications of mixed fertilizers and nitrogen are usually necessary for the profitable use of most of the cropland.

According to estimates by the Soil Conservation Service, about two-thirds of the present cropland is unsuitable for cultivation under present practices. Even with the recommended conservation practices, nearly one-fourth of the present cropland is unsuitable for intensive use. Fortunately, there is a considerable acreage still in woods that is suitable for intensive use. It is estimated that an acreage equal to about three-fourths of the present cropland is suitable for intensive use under present practices. Under conservation practices, it is estimated that cropland could be increased by 65 percent without serious losses from erosion. However, farm management studies in the area indicate that a

Table 6. - Land use, cropland and livestock organization, and production, present and estimated, Subarea 1, Hill Areas (Arkansas, Louisiana, Mississippi, Oklahoma, and Texas)

| Item | Unit | 1939 actual | Expected 1945-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|----------|----------------|---------------------|---------------------------------|------------------------------------------------|---------|
| | | | | Percent | | Percent |
| Total land area | : acres | 63,783 | 63,783 | - | 63,783 | - |
| Number of farms | : number | 429.2 | 412.9 | - 4 | 280.6 | -35 |
| All land in farms | : acres | 35,449 | 35,650 | 1 | 36,763 | 4 |
| Cropland | : do | 13,317 | 12,926 | - 3 | 11,829 | -11 |
| Pasture (excl. woodland) | : do | 7,756 | 8,272 | 7 | 12,158 | 57 |
| Woodland (total) | : do | 12,162 | 12,303 | 1 | 10,918 | -10 |
| Other land in farms | : do | 2,214 | 2,149 | - 3 | 1,858 | -16 |
| Cotton | : do | 3,653 | 3,287 | -10 | 2,117 | -33 |
| Corn, all purposes | : do | 4,599 | 4,731 | 3 | 4,309 | - 6 |
| Grain sorghums (grain) | : do | 25 | 26 | 4 | 41 | 64 |
| Wheat | : do | 2 | 2 | 0 | 2 | 0 |
| Oats for grain | : do | 116 | 137 | 18 | 256 | 121 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 5 | 5 | 0 | 5 | 0 |
| Soybeans (for beans) | : do | 10 | 43 | 8 | 61 | 52 |
| All hay | : do | 1,165 | 1,328 | 14 | 2,787 | 139 |
| Peanuts | : do | 162 | 200 | 23 | 211 | 30 |
| Tomatoes | : do | 31 | 33 | 6 | 38 | 22 |
| Other comml. vegetables | : do | 58 | 62 | 7 | 83 | 43 |
| Sugar cane (sugar) | : do | 3 | 3 | 0 | 3 | 0 |
| Other crops | : do | 1,715 | 1,429 | -17 | 1,586 | - 7 |
| Idle cropland | : do | 1,743 | 1,610 | - 6 | - | -100 |
| Horses and mules | : head | 907 | 880 | - 3 | 710 | -22 |
| All cattle | : do | 2,648 | 2,838 | 7 | 3,971 | 50 |
| Cows kept for milk | : do | 1,034 | 1,080 | 1 | 1,533 | 48 |
| All swine | : do | 2,261 | 2,311 | 11 | 2,090 | - 8 |
| All sheep | : do | 226 | 227 | 1 | 255 | 13 |
| All chickens | : do | 13,537 | 15,236 | 13 | 18,766 | 16 |
| Crop production: | | | | | | |
| Cotton | : bales | 1,582 | 1,389 | -12 | 1,183 | -25 |
| Corn, all purposes | : bu. | 52,186 | 65,240 | 23 | 66,312 | 27 |
| Grain sorghums (grain) | : do | 331 | 345 | 4 | 517 | 56 |
| Wheat | : do | 33 | 33 | 0 | 33 | 0 |
| Oats for grain | : do | 2,890 | 3,588 | 24 | 6,914 | 139 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 83 | 83 | 0 | 83 | 0 |
| Soybeans (for beans) | : do | 239 | 349 | 46 | 565 | 136 |
| All hay | : tons | 1,155 | 1,418 | 23 | 3,282 | 184 |
| Peanuts | : lbs. | 55,611 | 74,767 | 34 | 97,652 | 76 |
| Sugar cane (sugar) | : tons | 75 | 75 | 0 | 75 | 0 |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. | 374,582 | 401,015 | 7 | 576,575 | 54 |
| Pork, L.W. | : do. | 454,213 | 504,534 | 11 | 418,915 | - 8 |
| Lamb & mutton, L.W. | : do | 4,068 | 4,100 | 1 | 4,611 | 13 |
| Milk | : gal. | 282,914 | 326,308 | 15 | 507,355 | 79 |
| Wool shorn | : lbs. | 748 | 753 | 1 | 832 | 11 |
| Chicken eggs | : doz. | 74,888 | 90,773 | 21 | 108,707 | 45 |
| Chickens raised | : head | 19,530 | 21,900 | 12 | 22,660 | 16 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

large percentage of the potential cropland should be used for permanent pasture in order to provide higher incomes per family.

Since the advent of the A.A.A., S.C.S. and F.C.A., many of the farmers in this subarea have awakened to the need for soil conservation and diversification. With the aid of these agencies they have made considerable progress toward pastures, soil-conserving crops, and expanding livestock enterprises. Since prices of livestock and livestock products during this emergency period are relatively favorable, these trends are expected to continue toward the desirable long-term adjustments.

It is estimated that by 1945 farmers in this subarea will decrease the acreage of cropland 3 percent, cotton 10 percent, other crops 17 percent, and idle cropland 6 percent; whereas, they are expected to increase corn acreage 3 percent, oat acreage 18 percent, hay 14 percent, peanuts 23 percent, and permanent pasture 7 percent.

The number of farms is expected to decline 4 percent, whereas, land in farms is expected to increase 1 percent, and the size of farms by 5 percent. Thus a shift from tilled crops to permanent pasture and woodland is expected, as farms increase in size. With more pasture and feed available, all classes of livestock, with the exception of workstock, are expected to increase considerably. It is estimated that beef production will increase 7 percent, pork 11 percent, milk 15 percent, mutton 1 percent, poultry 12 percent, and eggs 21 percent.

The most important and immediate "bottleneck" affecting milk and beef production in this subarea is the lack of facilities for cutting, curing, and storing roughages. Only a small percent of farmers are feeding enough roughage to dairy cattle and the majority feed less than one-fourth the recommended quantities. At the same time, at least half of the feeding value of roughages produced remains unharvested, or is lost because of poor management in the cutting and curing process. Credit for obtaining seed for pasture and hay crops, fertilizer, mowing machines, and silos is badly needed in most of the hill counties. The amounts needed are small but they represent a large outlay for low income farmers. From the standpoint of soil conservation and a profitable system of farming, the best use of most of the land not needed for cotton and grains for home use is for the production of roughage and pasture for cattle. On small farms the best outlet for roughage is in the production of milk and dairy replacements. The small upland farms need an intensive livestock enterprise to provide a market for feed and labor and give them employment throughout the year. As grain yields are low and soil erosion is a serious problem on upland soils, roughage-consuming livestock, such as cattle and sheep for commercial production, fit in best with the recommended physical adjustments in crops and soils. On small hill farms, dairying seems to be the best alternative for it will provide a good market for labor and roughage, and at the same time help conserve the soil and increase incomes.

Many hill farms have found it possible to increase their income considerably by marketing roughage from idle land, through dairy cows, using only cottonseed meal as a supplementary feed.

On large farms, the beef cattle enterprise fits into the farming scheme better than dairying. Farms large enough to have a one-unit beef herd and to buy a good beef type bull, can profitably utilize this land on a more extensive basis, employ the family labor, reduce erosion, and improve fertility. On the small farms that have a ready market for milk or cream, the dairy enterprise is generally desirable, for dairy cattle will provide a larger income per cow and a larger income per farm than beef cattle, and at the same time give a better utilization of labor and a higher return per unit of feed produced.

The long-time desirable adjustments in this area call for some drastic changes, which include a 59-percent increase in size of farms and a 35 percent decrease in the number of farms. Total cropland should be decreased about 11 percent, but the acreage in crops harvested is increased slightly since the large acreage of idle land is allocated to best use. Permanent pasture should be increased by 57 percent and the quality should be improved considerably through the seeding of better pasture mixtures and the application of fertilizer and manure.

When desirable alternatives have been fully developed it is expected that cotton acreage will have been reduced by 33 percent and corn by 6 percent. The desirable production does not decrease in proportion to acreage. Desirable cotton production calls for a 25 percent reduction, whereas, corn production is increased 27 percent. This big percentage increase in corn is attributable largely to abnormally low yields in 1939. The acreage diverted from corn, cotton, and idle cropland should be put into hay, silage, soybeans, grain sorghums, oats, and peanuts. It is estimated that hay should be increased 139 percent, soybeans 52 percent, grain sorghums 64 percent, oats 121 percent, and peanuts 30 percent. Silage has been included with hay and rotation pasture was left in with other crops. A large acreage of winter legumes, small grain pasture, and temporary summer pasture is recommended, but does not appear separately here, since a large part of this acreage consists of double crops.

Under this new cropping system it is suggested that the number of work animals be reduced 22 percent, and all swine by 3 percent. Cattle should be increased 50 percent, milk cows by 48 percent, and sheep 13 percent, in order to provide a market for the increased pasture and roughage. Chickens should be increased by about 16 percent to provide more poultry and eggs for farm consumption.

The production of milk and eggs should be increased more than proportionately with numbers, since the relatively low production per cow and hen in this area is attributable in part to poor feeding. Thus

it is estimated that milk production should increase by 79 percent and egg production 45 percent, whereas, the change in production of other live-stock products is about proportional to the change in numbers.

Delta Area of Mississippi, Louisiana
and Arkansas

Subarea 2

This delta area consists of more than 22,500,000 acres of alluvial soil that has been deposited by the waters of the Mississippi River and its tributaries in the States of Arkansas, Louisiana, and Mississippi. In this total are included the deltas of the Red, Yazoo, and Arkansas Rivers. Thirteen of the 22 million acres is in farms and plantations, whereas, the remainder consists largely of woodland and swamps owned in large part by lumber companies, drainage districts, and governmental units. Of the 13 million acres in farms only about 7.6 million acres consists of cropland.

Before the beginning of the AAA program, the Delta was a highly specialized cotton-producing area, and cotton provided well over 90 percent of the income. During this period about two-thirds of the cropland was used for cotton, and a large part of the feed for mules and home-use livestock was purchased. At present, only about 37 percent of the crop acreage is used for cotton, whereas, corn, oats, or soybeans are becoming important cash crops on most plantations. In addition, the pasture and hay acreage has been expanded to take care of additional cattle.

The agriculture of the area is characterized by large plantation units, well equipped with farm machinery but still dependent largely upon resident cropper and wage families to supply the large amount of hand labor required for cotton. There is a noticeable trend toward mechanization and cash grains, and in some areas there has been a corresponding shift from croppers to wage hands.

The Delta is still one of the most intensive cotton-producing areas in the world, and its great comparative advantage in cotton production is attributable largely to high yields, long-staple cotton, and its adaptability to the use of mechanized equipment, which results in a relatively low cost per bale. In 1939 the average census cotton yield in this area was 406 pounds, as compared with 182 pounds for the hill areas of Mississippi, Louisiana, and Arkansas, and about 250 pounds for the Cotton Belt. Thus even though the Delta cotton acreage accounted for only about 50 percent of the total cotton acreage in Louisiana, Arkansas, and Mississippi, its production amounted to about 70 percent of the total in these three States.

The Delta is not very well equipped for livestock production, in spite of the relatively high productivity of the soil for pasture and feed crops. Because of the lack of fences, trained labor, and other facilities for livestock and in view of the excellent equipment and soils for production of cash crops and the relatively high returns from them, it seems probable

Table 7. - Land use, cropland and livestock organization and production, present and estimated, Subarea 2, Delta (Arkansas, Louisiana, and Mississippi)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change Percent |
|--------------------------|----------|----------------|---------------------|---------------------------------|------------------------------------------------|-------------------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres | 22,559 | 22,559 | - | 22,559 | - |
| Number of farms | : number | 232.8 | 226.9 | - 3 | 235.5 | 10 |
| All land in farms | : acres | 13,943 | 13,595 | 5 | 13,953 | 8 |
| Cropland | : do | 7,607 | 7,890 | 3 | 8,921 | 17 |
| Pasture (excl. woodland) | : do | 1,483 | 1,664 | 12 | 1,678 | 13 |
| Woodland (total) | : do | 3,257 | 3,455 | 6 | 2,774 | -15 |
| Other land in farms | : do | 596 | 586 | - 2 | 580 | - 3 |
| Cotton | : do | 2,823 | 2,541 | -10 | 3,164 | 12 |
| Corn, all purposes | : do | 2,471 | 2,511 | 2 | 1,794 | -27 |
| Grain sorghums (grain) | : do | 2 | 2 | 0 | 1 | -50 |
| Wheat | : do | 6 | 6 | 0 | 6 | 0 |
| Oats for grain | : do | 212 | 576 | 172 | 978 | 361 |
| Rice | : do | 183 | 215 | 17 | 215 | 17 |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 4 | 4 | 0 | 4 | 0 |
| Soybeans (for beans) | : do | 105 | 278 | 165 | 892 | 750 |
| All hay | : do | 939 | 935 | 0 | 1,187 | 26 |
| Peanuts | : do | 7 | 7 | 0 | 4 | -43 |
| Tomatoes | : do | 1 | 1 | 0 | - | -100 |
| Other comml. vegetables | : do | 8 | 8 | 0 | 8 | 0 |
| Sugar cane (sugar) | : do | 32 | 32 | 0 | 32 | 0 |
| Other crops | : do | 314 | 324 | 3 | 636 | 103 |
| Idle cropland | : do | 500 | 450 | -10 | - | -100 |
| Horses and mules | : head | 436 | 427 | - 2 | 436 | 0 |
| All cattle | : do | 844 | 900 | 8 | 1,071 | 28 |
| Cows kept for milk | : do | 293 | 300 | 2 | 425 | 45 |
| All swine | : do | 1,419 | 1,542 | 8 | 1,582 | 11 |
| All sheep | : do | 42 | 43 | 2 | 43 | 2 |
| All chickens | : do | 7,120 | 7,486 | 5 | 2,027 | 27 |
| Crop production: | : | : | : | : | : | : |
| Cotton | : bales | 2,294 | 2,012 | -12 | 2,641 | 15 |
| Corn, all purposes | : bu. | 42,115 | 47,912 | 14 | 36,871 | - 8 |
| Grain sorghums (grain) | : do | 37 | 37 | 0 | 13 | -51 |
| Wheat | : do | 106 | 106 | 0 | 106 | 0 |
| Oats for grain | : do | 8,205 | 24,661 | 200 | 14,760 | 446 |
| Rice | : do | 9,025 | 10,616 | 18 | 10,616 | 18 |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 72 | 72 | 0 | 72 | 0 |
| Soybeans (for beans) | : do | 1,099 | 4,170 | 279 | 15,219 | 1,285 |
| All hay | : tons | 1,238 | 1,253 | 1 | 1,507 | 22 |
| Peanuts | : lbs. | 3,347 | 3,347 | 0 | 870 | -74 |
| Sugar cane (sugar) | : tons | 611 | 575 | - 6 | 575 | - 6 |
| Livestock production: | : | : | : | : | : | : |
| Beef & veal, L.W. | : lbs. | 126,374 | 136,313 | 8 | 159,081 | 26 |
| Pork, L.W. | : do | 293,961 | 315,820 | 7 | 324,052 | 10 |
| Lamb & mutton, L.W. | : do | 865 | 882 | 2 | 862 | 2 |
| Milk | : gal. | 87,169 | 89,043 | 2 | 133,450 | 53 |
| Wool shorn | : lbs. | 122 | 125 | 2 | 125 | 2 |
| Chicken eggs | : doz. | 33,947 | 37,105 | 9 | 47,765 | 41 |
| Chickens raised | : head | 12,039 | 12,574 | 4 | 14,808 | 23 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

that the well-drained productive Delta soils will be used mainly for cash crops. Furthermore, most plantation operators have a decided preference for the cash crop system. However, as there is a large extent of swampland and wasteland that is suitable only for grazing, and as prices for beef are relatively favorable, a considerable increase in beef cattle numbers is expected.

Several significant changes in crop acreages are expected by 1943-45. Under the assumptions outlined above, cotton acreage will be cut about 10 percent. With a smaller cotton acreage and with more favorable prices for grains and vegetable oils and with a scarcity of farm labor, Delta planters are expected to increase oats for grain by 172 percent and soybeans for seed and oil by about 165 percent. This additional acreage consists in large part of the diverted cotton acreage. Corn acreage is expected to increase by 2 percent and total crop acreage by 3 percent. Most of the "new ground" will be put in corn and cotton. The estimated acreage of rice is 17 percent above the 1939 level and the hay acreage about the same as in 1939. On loam soils, soybeans for grain can be grown after oats in some years. If this practice is carried out extensively, the soybean acreage may be somewhat larger than indicated.

Livestock numbers and production in the Delta are expected to increase considerably, but not nearly so much as seems desirable. Most of the Delta livestock other than workstock is used to provide products for home use. The beef cattle enterprise is an exception but it is an important enterprise only on plantations having a considerable acreage of waste land suitable only for grazing. It is estimated that beef production will increase 8 percent, chickens raised 4 percent, and eggs 9 percent, by 1945. Most of the additional pork, milk, poultry, and eggs should be consumed on the farms.

Most of the estimated changes in crop acreages are in the same direction, but are less than the short-time desirable adjustments for defense needs. However, one of the major exceptions is the corn acreage. A considerable part of the present corn acreage should be diverted to oats, soybeans, hay, and pasture, whereas, corn acreage is expected to increase.

Desirable long-time changes in farming in the Delta call for substantial increases in the acreage devoted to small grains and legumes. Oats and soybeans for grain have a particularly important place to fill in the cropping system because they can be advantageously grown as cash crops as well as for feed and for fulfilling soil management requirements. Although the combined acreage of these two crops amounted to only 3 percent of the total crop acreage in 1939, desirable increases of 361 percent in oats and 750 percent in soybeans would bring the total to only 21 percent of the cropland. On the basis of the amount of feed produced per acre, oats can be profitably substituted for at least 27 percent of the present acreage of corn. Increases in the acreage devoted to other crops should be largely at the expense of idle cropland. Because of the probability that new land will be developed for cultivation, and in view of the recommended improvement in choice of crops from a soil management standpoint, the acreage of cotton will likely be increased by approximately 12 percent over the long-run. Such an increase in cotton would, of course, be contingent upon the establishment of profitable alternatives in those areas where cotton is produced with less advantage. The net effect of these changes would be to decrease the acreage of soil-depleting crops and to increase farm incomes.

Gulf Coast and Rio Grande Valley Special Crops

Subarea 3

This Special Crops area consists of about 20,500,000 acres of land along the Gulf Coast of Mississippi, Louisiana, and Texas, including the Rio Grande Valley. The soils vary from heavy clay and Delta buckshot to light sandy loams. For the most part it is an area of heavy rainfall and subtropical climate which is well adapted to the production of a number of fruits and early vegetables. It is also characterized by a flat terrain, and large tracts of swamp timber and wasteland; and drainage is one of the major problems. Only about one-third of the land area is in farms and less than 40 percent of the farm land is used for crops. A large part of the nonfarm land is used as range for cattle and hogs.

The agriculture in the area is rather variable, but in general is characterized by specialized crop farms varying in size from large sugar plantations to small one-family strawberry and vegetable farms. It is one of the few parts of the South where cotton is not the only important cash crop. Among the important cash crops are rice, cotton, sugar strawberries, citrus fruits, early vegetables, and tung nuts. About 24 percent of the crop acreage is in corn, 18 percent in rice, 8 percent in sugarcane, 7 percent in hay, 4 percent in vegetables, 10 percent in other crops, and 14 percent in idle land. A considerable part of the other crop acreage consists of citrus fruit orchards in the lower Rio Grande Valley.

Livestock have an important place in the agriculture of the region, particularly beef and dairy cattle. For example, there are about 13 cattle per farm, or about 12 head per 100 acres of farm land. It should be noted that many of these cattle run on the range and nonfarm land. About one-fourth of the cattle are milk cows, and more than half of these are in the milksheds of New Orleans, Galveston, Houston, and other coastal cities. In the rice section there is a large acreage of rotation pasture, used for rice every two or three years, which is heavily stocked with grade beef cattle. There are about six hogs per farm, but they consist mainly of range hogs. Sheep are rather important in part of this subregion, but the average for the subregion is less than three per farm. In part of the subregion there are a number of commercial poultry farms, producing for the local markets.

During the period 1939-45 corn production is expected to increase 16 percent, rice 9 percent, sugarcane production 15 percent, hay 15 percent, and grain sorghums 22 percent, as compared with a 25 percent reduction in cotton production. The acreage of tomatoes is expected to increase 30 percent, and of other vegetables 20 percent. Estimates of vegetable production were not made.

With the improvement in prices and with increased production of feed, livestock numbers are expected to increase as follows: sheep 14 percent, cattle 4 percent, milk cows 5 percent, swine 6 percent, and chickens 10 percent. Workstock numbers are expected to decline by 10 percent. Milk and egg production are expected to increase somewhat

Table 8. - Land use, cropland and livestock or anization and production, present and estimated, Subarea 3, Gulf Coast and Rio Grande Valley Special Crops (Mississippi, Louisiana, and Texas)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total |
|--------------------------|------------|----------------|---------------------|---------------------------------|------------------------------------------------|
| | | 1,000 | 1,000 | Percent | 1,000 |
| | | | | | Percent |
| Total land area | : acres : | 20,452 | 20,452 | - | 20,452 |
| Number of farms | : number : | 66.0 | 65.5 | - 1 | 62.9 |
| All land in farms | : acres : | 6,822 | 6,980 | 2 | 7,299 |
| Cropland | : do : | 2,506 | 2,629 | 5 | 2,842 |
| Pasture (excl. woodland) | : do : | 2,469 | 2,475 | 0 | 2,915 |
| Woodland (total) | : do : | 1,394 | 1,422 | 2 | 1,236 |
| Other land in farms | : do : | 153 | 154 | 0 | 306 |
| Cotton | : do : | 324 | 307 | - 5 | 286 |
| Corn, all purposes | : do : | 597 | 637 | 7 | 691 |
| Grain sorghums (grain) | : do : | 7 | 10 | 13 | 10 |
| Wheat | : do : | - | - | - | - |
| Oats for grain | : do : | 1 | 1 | 0 | 1 |
| Rice | : do : | 473 | 512 | 8 | 568 |
| Flaxseed | : do : | - | - | - | - |
| Other small grains | : do : | - | - | - | - |
| Soybeans (for beans) | : do : | 8 | 8 | 0 | 26 |
| All hay | : do : | 168 | 190 | 13 | 326 |
| Peanuts | : do : | 7 | 8 | 14 | 11 |
| Tomatoes | : do : | 23 | 30 | 30 | 30 |
| Other comml. vegetables | : do : | 88 | 106 | 20 | 136 |
| Sugar cane (sugar) | : do : | 192 | 221 | 15 | 259 |
| Other crops | : do : | 260 | 329 | 27 | 498 |
| Idle cropland | : do : | 358 | 270 | -25 | - |
| Horses and mules | : head : | 163 | 147 | -10 | 133 |
| All cattle | : do : | 832 | 862 | 4 | 897 |
| Cows kept for milk | : do : | 203 | 214 | 5 | 282 |
| All swine | : do : | 367 | 389 | 6 | 385 |
| All sheep | : do : | 169 | 192 | 14 | 230 |
| All chickens | : do : | 3,028 | 3,326 | 10 | 3,502 |
| Crop production: | : | : | : | : | : |
| Cotton | : bales : | 171 | 128 | -25 | 130 |
| Corn, all purposes | : bu. : | 9,139 | 10,566 | 16 | 13,386 |
| Grain sorghums (grain) | : do : | 110 | 134 | 22 | 134 |
| Wheat | : do : | - | - | - | - |
| Oats for grain | : do : | 14 | 14 | 0 | 25 |
| Rice | : do : | 22,204 | 24,268 | 9 | 25,060 |
| Flaxseed | : do : | - | - | - | - |
| Other small grains | : do : | - | - | - | - |
| Soybeans (for beans) | : do : | 64 | 64 | 0 | 305 |
| All hay | : tons : | 259 | 297 | 15 | 407 |
| Peanuts | : lbs. : | 3,616 | 4,818 | 33 | 7,018 |
| Sugar cane (sugar) | : tons : | 3,953 | 4,553 | 15 | 5,439 |
| Livestock production: | : | : | : | : | : |
| Beef & veal, L.W. | : lbs. : | 143,345 | 147,535 | 3 | 152,311 |
| Pork, L.W. | : do : | 61,911 | 63,102 | 5 | 68,310 |
| Lamb & mutton, L.W. | : do : | 3,006 | 3,407 | 13 | 4,081 |
| Milk | : gal. : | 61,084 | 66,360 | 9 | 82,630 |
| Wool shorn | : lbs. : | 486 | 546 | 12 | 647 |
| Chicken eggs | : doz. : | 17,726 | 19,981 | 13 | 21,607 |
| Chickens raised | : head : | 3,916 | 4,293 | 10 | 4,426 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

more rapidly than the numbers of milk cows and hens, as a result of better feeding and handling practices.

In the long run, it is considered desirable to increase production of corn 47 percent, oats 79 percent, rice 13 percent, sugar 37 percent, hay 92 percent and grain sorghums 22 percent. When these enterprises have been developed, it is expected that the acreage in cotton will have been decreased 12 percent in the area as a whole. The control of pink boll worm may accelerate this change in lower parts of this area. Although much of the pasture is on low-quality soils, there is a large acreage of land suitable for pasture improvement and intensive use. It would seem desirable to increase the permanent pasture acreage 18 percent, and also seed adapted pasture mixtures and apply in some areas basic slag and manure. A considerable increase in the acreage of rotation pasture is recommended for the rice sections, but is included in other crops.

This area has the economic capacity for a considerable increase in livestock products, in spite of its relatively dense present livestock population. Pastures can be improved in much of the area to the extent that they will furnish pasture throughout the year, although at present the acreage of improved pasture is relatively small. Under the desirable cropping and pasture system, beef production should be increased 6 percent, pork 5 percent, mutton 36 percent, milk 35 percent, wool 33 percent, eggs 22 percent, and poultry 13 percent. A considerable increase in farm consumption of pork, poultry, eggs and milk would perhaps be desirable from the standpoint of reducing cash expenditure for food, and of improving health.

Arkansas River Valley and Uplands

Subarea 4

This area is a cotton, general farming, self-sufficing area. The soils of the Arkansas part of the area are primarily upland soils of shale and sandstone origin, and alluvial soils along the Arkansas River and its tributaries. The soils of the Oklahoma portion of the area are cross timber soils with interspersed prairies, and alluvial soils along the Arkansas River and its tributaries.

The topography of the area is rolling to rough, except for the stream bottoms, and soil erosion is a serious problem in most of the area.

Many of the farms are family farms operated by owners, cash tenants, or share tenants. The average farm size in 1939 was slightly less than 110 acres, with approximately 40 acres of cropland. The trend in the area appears to be away from cotton production and toward livestock production. Data for sample counties indicate that cotton acreage in 1939 was only 45 percent of the 1930 acreage. Average cotton yields were 9 percent less during the 5-year period 1928-32 (see cotton acreage and cotton yield trends in the appendix of this report). The acreage planted in 1940 was only about 75 percent of cotton acreage allotted in accordance with.

Table 9. - Land use, cropland and livestock organization and production, present and estimated, Subarea 4, Arkansas River Valley and Uplands (Arkansas and Oklahoma)

| Item | Unit | 1939 | | Expected | | Long-time desirable | |
|--------------------------|--------|---------|---------|----------|---------|---------------------|--------|
| | | actual | | 1943-45 | | (tentative) 1/ | |
| | | 1,000 | 1,000 | Percent | Percent | Total | Change |
| Total land area | acres | 15,533 | 15,533 | - | - | 15,533 | - |
| Number of farms | number | 88.2 | 82.1 | - 7 | - | 65.0 | -26 |
| All land in farms | acres | 9,325 | 9,325 | 0 | 0 | 9,545 | 3 |
| Cropland | do | 3,512 | 3,337 | - 5 | - | 2,791 | -21 |
| Pasture (excl. woodland) | do | 2,586 | 2,761 | 7 | 7 | 3,752 | 45 |
| Woodland (total) | do | 2,718 | 2,718 | 0 | 0 | 2,474 | - 9 |
| Other land in farms | do | 509 | 509 | 0 | 0 | 578 | 14 |
| Cotton | do | 707 | 636 | -10 | - | 376 | -17 |
| Corn, all purposes | do | 988 | 970 | - 2 | - | 625 | -37 |
| Grain sorghums (grain) | do | 38 | 44 | 16 | 16 | 72 | 89 |
| Wheat | do | 31 | 31 | 0 | 0 | 31 | 0 |
| Oats for grain | do | 157 | 201 | 30 | 30 | 510 | 225 |
| Rice | do | - | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - | - |
| Other small grains | do | 22 | 22 | 0 | 0 | 22 | 0 |
| Soybeans (for beans) | do | 2 | 2 | 0 | 0 | 2 | 0 |
| All hay | do | 582 | 616 | 6 | 6 | 700 | 20 |
| Peanuts | do | 16 | 16 | 0 | 0 | 20 | 25 |
| Tomatoes | do | 2 | 3 | 50 | 50 | 2 | 0 |
| Other comm. vegetables | do | 10 | 10 | 0 | 0 | 10 | 0 |
| Sugar cane (sugar) | do | - | - | - | - | - | - |
| Other crops | do | 357 | 358 | 0 | 0 | 421 | 18 |
| Idle cropland | do | 600 | 425 | -32 | -32 | - | -100 |
| Horses and mules | head | 204 | 194 | - 5 | - | 156 | -23 |
| All cattle | do | 639 | 660 | 3 | 3 | 830 | 30 |
| Cows kept for milk | do | 263 | 276 | 5 | 5 | 373 | 42 |
| All swine | do | 536 | 577 | 8 | 8 | 357 | -33 |
| All sheep | do | 41 | 43 | 5 | 5 | 74 | 80 |
| All chickens | do | 4,137 | 4,550 | 10 | 10 | 3,876 | - 6 |
| Crop production: | | | | | | | |
| Cotton | bales | 299 | 193 | -35 | -35 | 116 | -61 |
| Corn, all purposes | bu. | 13,756 | 12,958 | 2 | 2 | 9,375 | -32 |
| Grain sorghums (grain) | do | 386 | 656 | 70 | 70 | 1,076 | 179 |
| Wheat | do | 342 | 342 | 0 | 0 | 342 | 0 |
| Oats for grain | do | 3,036 | 4,080 | 34 | 34 | 2,200 | 203 |
| Rice | do | - | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - | - |
| Other small grains | do | 311 | 311 | 0 | 0 | 311 | 0 |
| Soybeans (for beans) | do | 7 | 7 | 0 | 0 | 7 | 0 |
| All hay | tons | 656 | 715 | 9 | 9 | 812 | 24 |
| Peanuts | lbs. | 696 | 696 | 0 | 0 | 8,700 | 25 |
| Sugar cane (sugar) | tons | - | - | - | - | - | - |
| Livestock production: | | | | | | | |
| Beef & veal, L.W. | lbs. | 125,861 | 125,861 | 0 | 0 | 159,590 | 27 |
| Pork, L.W. | do | 123,257 | 132,589 | 8 | 8 | 83,108 | -33 |
| Lamb & mutton, L.W. | do | 1,376 | 1,443 | 5 | 5 | 2,169 | 79 |
| Milk | gal. | 90,567 | 99,624 | 10 | 10 | 155,750 | 72 |
| Wool shorn | lbs. | 197 | 206 | 5 | 5 | 319 | 62 |
| Chicken eggs | doz. | 24,987 | 28,735 | 15 | 15 | 27,130 | 9 |
| Chickens raised | head | 5,203 | 6,493 | 10 | 10 | 5,685 | - 4 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

the AAA program. All cattle and milk cow numbers were considerably greater in 1940 than in 1930. There were fewer farms, and farms were larger, in 1940 than in 1930.

The major changes expected (1943-45) are: (1) A reduction of 15 percent in cotton acreage in line with assumptions previously mentioned. This will result in a somewhat greater than proportionate reduction in production, since average yields were lower than 1939 yields; (2) A slight reduction in corn acreage and an increase in grain sorghum, oats, and hay acreages in line with past trends. According to AAA records, farmers in the Arkansas part of the area seeded in 1940 approximately 188,000 acres of lespedeza, or nearly 6 percent of the total cropland and pasture land; (3) An increase in milk production, brought about by an increase in the proportion of cows milked, and by better feeding practices. A considerable number of the cows in the area are "farm" cows, which are either milked and the cream sold, or left unmilked and calves raised, depending upon which is more profitable. It is quite probable that more commercial concentrate feeds will be bought and fed to cows that are being milked. A large portion of the increased milk production will be sold in the form of butterfat to creameries and cheese plants. Processing plants or receiving stations are fairly accessible to the farmers, and an increase in the number and capacity of processing plants in the next few years is not unlikely; (4) A slight increase in hog numbers and better care of hogs in response to higher hog prices; (5) An increase in poultry, and particularly in egg production, as a result of increase in the sizes of farm flocks and better care.

The "expected" adjustments during 1943-45 are in line with adjustments that appear desirable for this area, with the following possible exceptions: (1) Hog numbers should not be increased to the extent indicated, and (2) Cotton acreage should be reduced more than 10 percent and feed crops, especially hay and silage, increased more than indicated.

Over the long run, it appears desirable (1) To increase the size of farms, chiefly by decreasing the number of farms; (2) To expect reductions in cotton acreage as alternative enterprises are developed. The cotton acreage indicated under long-time desirable adjustments would amount to nearly 9 acres per farm for two-thirds of the farms in the area; (3) To increase acreage of feed crops particularly silage, rotation pasture, hay, and small grains; (4) To increase and improve pastures; (5) To increase materially beef and milk production. Sheep have a place on many farms in the area. It is doubtful whether hog numbers should be much greater than needed to provide enough pork for home use.

One of the major obstacles to needed adjustments is the lack of capital with which to buy additional livestock and make necessary improvements incident to livestock enterprises. The reduction in income during the period of pasture development is a serious consideration, but this difficulty can be partially overcome by increasing the acreage of annual or rotation pasture.

Ozark-Ouachita Mountains

Subarea 5

This area consists primarily of the mountain sections of Arkansas and Oklahoma. Except for some plateaus and bottomland along small streams, the area is very rough and broken.

The farming systems vary from highly specialized commercial farms, such as fruit farms in Benton and Washington Counties (Arkansas), to self-sufficing farms in the more rugged sections.

The chief agricultural adjustment problems are closely related to the physical characteristics of the area. Soil erosion is a major problem. A reconnaissance survey made by the Soil Conservation Service in 1937 indicated that less than 40 percent of the land cropped during 1935 in the Arkansas part of this area was suitable for cultivation under the present practices.

The trend in cotton acreage in the area has been downward, and yields of lint averaged less during the period 1935-39 than during the period 1928-32. Corn acreage has also declined since 1930. Oats, hay, and pasture acreages have been increased materially. According to AAA records for the Arkansas portion of the area, more than 225 thousand acres, which is approximately 14 percent of the total cropland and pasture land, was seeded to lespedeza during 1940, and this practice was followed on approximately 60 percent of the farms. As a result of these changes, cattle numbers, particularly dairy cows, have increased substantially during the last 10 years.

These trends are expected to continue. It is estimated that by 1943-45 milk production will increase 13 percent over the 1939 production. A large part of the increased production will probably be sold as butterfat to be used for making cheese and butter. An increase of pork production, chiefly from range hogs, may occur as a result of better care. A rather large broiler enterprise has been developed in the northern part of this area, and increases in both poultry and egg production are probable.

An increase in the volume of canned tomatoes is needed. There are approximately 90 small canneries in northwest Arkansas, most of which are located in Benton, Madison, Washington, and Carroll Counties. The principal product processed in these canneries is the tomato. It is estimated that the output was approximately 1.2 million cases (24 #2 cans per case) in 1940. Most of the tomatoes are produced by farmers who grow 3 or 4 acres each. Therefore, a considerable number of farmers are affected. The production of canning tomatoes is a profitable supplemental enterprise on many small farms here. It is believed that the production should be increased further.

Table 10. - Land use, cropland and livestock organization and production, present and estimated, Subarea 5, Ozark-Ouachita (Arkansas & Oklahoma)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Expected : Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|------------|----------------|---------------------|---------------------------------|-----------------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres : | 11,005 | 11,005 | - | 11,005 | - |
| Number of farms | : number : | 49.8 | 48.9 | - 2 | 39.9 | -20 |
| All land in farms | : acres : | 5,118 | 5,118 | 0 | 5,118 | 0 |
| Cropland | : do : | 1,499 | 1,499 | 0 | 1,281 | -15 |
| Pasture (excl. woodland) | : do : | 1,166 | 1,166 | 0 | 1,384 | 19 |
| Woodland (total) | : do : | 1,980 | 1,980 | 0 | 1,980 | 0 |
| Other land in farms | : do : | 173 | 173 | 0 | 173 | 0 |
| Cotton | : do : | 89 | 80 | -10 | - | -100 |
| Corn, all purposes | : do : | 411 | 421 | 2 | 276 | -33 |
| Grain sorghums (grain) | : do : | 15 | 15 | 0 | 32 | 113 |
| Wheat | : do : | 47 | 45 | - 4 | 45 | - 4 |
| Oats for grain | : do : | 88 | 94 | 7 | 242 | 175 |
| Rice | : do : | - | - | - | - | - |
| Flaxseed | : do : | - | - | - | - | - |
| Other small grains | : do : | 19 | 19 | 0 | 19 | 0 |
| Soybeans (for beans) | : do : | 2 | 2 | 0 | 2 | 0 |
| All hay | : do : | 378 | 401 | 6 | 161 | 22 |
| Peanuts | : do : | 9 | 9 | 0 | 9 | 0 |
| Tomatoes | : do : | 8 | 12 | 50 | 12 | 50 |
| Other comml. vegetables | : do : | 9 | 13 | 44 | 13 | 44 |
| Sugar cane (sugar) | : do : | - | - | - | - | - |
| Other crops | : do : | 180 | 159 | 13 | 170 | - 6 |
| Idle cropland | : do : | 244 | 229 | - 6 | - | -100 |
| Horses and mules | : head : | 109 | 106 | - 3 | 88 | -19 |
| All cattle | : do : | 419 | 442 | 5 | 492 | 17 |
| Milk cows | : do : | 152 | 165 | 9 | 175 | 15 |
| All swine | : do : | 338 | 338 | 0 | 268 | -21 |
| All sheep | : do : | 52 | 67 | 29 | 144 | 177 |
| All chickens | : do : | 2,467 | 2,713 | 10 | 2,878 | 17 |
| Crop production: | | | | | | |
| Cotton | : bales : | 33 | 19 | -39 | - | -100 |
| Corn, all purposes | : bu. : | 5,744 | 6,307 | 10 | 4,140 | -28 |
| Grain sorghums (grain) | : do : | 165 | 165 | 0 | 110 | 149 |
| Wheat | : do : | 520 | 499 | - 4 | 499 | - 4 |
| Oats for grain | : do : | 1,678 | 1,880 | 12 | 1,840 | 188 |
| Rice | : do : | - | - | - | - | - |
| Flaxseed | : do : | - | - | - | - | - |
| Other small grains | : do : | 270 | 270 | 0 | 270 | 0 |
| Soybeans (for beans) | : do : | 13 | 13 | 0 | 13 | 0 |
| All hay | : tons : | 373 | 388 | 4 | 146 | 20 |
| Peanuts | : lbs. : | 3,770 | 3,770 | 0 | 3,770 | 0 |
| Sugar cane (sugar) | : tons : | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. : | 82,364 | 84,988 | 3 | 92,849 | 12 |
| Pork, L.W. | : do : | 82,355 | 83,781 | 2 | 65,165 | -21 |
| Lamb & mutton, L.W. | : do : | 1,575 | 1,763 | 12 | 5,540 | 252 |
| Milk | : gal. : | 58,629 | 66,526 | 13 | 69,836 | 19 |
| Wool shorn | : lbs. : | 223 | 249 | 12 | 554 | 148 |
| Chicken eggs | : doz. : | 17,610 | 19,732 | 12 | 20,758 | 18 |
| Chickens raised | : head : | 8,848 | 9,733 | 10 | 12,372 | 40 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Practically all of these canning tomatoes are grown on a contract basis. The 1941 contract price here is \$10 per ton. The announcement in April that \$2.75 to \$3.00 per ton above contract prices would be paid farmers by the Government came too late to have much effect upon the acreage planted in 1941.

A price of \$13 per ton to farmers during the next few years would probably stimulate production materially, perhaps increase it 50 percent. The present capacity of processing plants could take care of this increase. The canning plants in this area are rather poorly equipped and depend upon a large amount of hand labor performed by local women and girls. The wage rates have previously been rather low but now the wages and hours law, which raises wages and thus the cost of processing, is effective in these plants. Some plants will modernize and can meet competition -- others will perhaps close down if assistance is not provided.

Commercial production of fresh vegetables will probably increase in some parts of the area.

The short-run expected adjustments and trends appear to be in the same direction as long-time desirable adjustments, which in brief are: (1) A continuation and increase in the production of special crops in limited areas adapted to their production, along with the development of improved marketing systems for these crops; (2) A decrease in the cotton and corn acreage and an increase in close-growing crops, hay, and silage; (3) An increased emphasis on improved farm pasture and proper utilization of range pasture; (4) An increase in cattle numbers, both dairy and beef, occurring concurrently with these land use and cropland organization adjustments.

A modification of the AAA program, which would make a larger proportion of the payments contingent upon good soil management practices and permit continuation of the same amount of payments even though cotton acreage was reduced below the allotment, would no doubt accelerate these desirable adjustments.

The Black Waxy Prairie of Texas

Subarea 6

Farming in the Black Waxy Prairie has long been based largely on the production of cotton and other depleting row crops. This exploitive type of agriculture has resulted in widespread soil deterioration, which has become increasingly apparent during the past decade and which has made more hazardous the strict reliance on the single crop, cotton, for the greater portion of the farm incomes. Other natural factors tending to make successful specialization in cotton production increasingly precarious include the spread of cotton root-rot and insect pests and rapid weed growth encouraged by a long growing season. It is also noteworthy that crop and pasture yields do not respond to fertilizers and hence maintenance of productivity at satisfactory levels is entirely dependent upon good land management and choice of crops.

Table 11. - Land use, cropland and livestock organization and production, present and estimated, Subarea 6, Black Bay Prairie (Texas)

| Item | Unit | : Expected : Long-time desirable | | | | |
|--------------------------|------------|----------------------------------|----------|-----------|----------------|---------|
| | | 1939 | Expected | change | (tentative) 1/ | |
| | | actual | 1943-45 | from 1939 | Total | Change |
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres : | 18,266 | 18,266 | - | 18,266 | - |
| Number of farms | : number : | 111 | 105 | - 5 | 75 | -32 |
| All land in farms | : acres : | 15,063 | 15,063 | 0 | 15,063 | 0 |
| Cropland | : do : | 7,833 | 7,050 | -10 | 6,266 | -20 |
| Pasture (excl. woodland) | : do : | 3,631 | 4,411 | 22 | 5,668 | 56 |
| Woodland (total) | : do : | 3,135 | 3,135 | 0 | 2,665 | -15 |
| Other land in farms | : do : | 464 | 464 | 0 | 464 | 0 |
| Cotton | : do : | 2,595 | 2,334 | -10 | 2,090 | -20 |
| Corn, all purposes | : do : | 1,900 | 2,000 | 5 | 2,000 | 5 |
| Grain sorghums (grain) | : do : | 125 | 130 | 4 | 130 | 4 |
| Wheat | : do : | 89 | 95 | 7 | 90 | 1 |
| Oats for grain | : do : | 461 | 530 | 15 | 500 | 8 |
| Rice | : do : | - | - | - | - | - |
| Flaxseed | : do : | 1 | 10 | 900 | 10 | 900 |
| Other small grains | : do : | 31 | 31 | 0 | 31 | 0 |
| Soybeans (for beans) | : do : | 1 | 1 | 0 | 1 | 0 |
| All hay | : do : | 753 | 790 | 5 | 1,000 | 33 |
| Peanuts | : do : | 50 | 60 | 20 | 60 | 20 |
| Tomatoes | : do : | 4 | 4 | 0 | 4 | 0 |
| Other comml. vegetables | : do : | 32 | 35 | 10 | 35 | 10 |
| Sugar cane (sugar) | : do : | - | - | - | - | - |
| Other crops | : do : | 650 | 650 | 0 | 315 | -52 |
| Idle cropland | : do : | 1,111 | 380 | -67 | - | -100 |
| Horses and mules | : head : | 390 | 254 | -35 | 175 | -55 |
| All cattle | : do : | 1,054 | 1,141 | 8 | 1,158 | 10 |
| Cows kept for milk | : do : | 376 | 395 | 5 | 412 | 10 |
| All swine | : do : | 555 | 600 | 8 | 750 | 35 |
| All sheep | : do : | 406 | 467 | 15 | 550 | 36 |
| All chickens | : do : | 7,809 | 7,809 | 0 | 7,809 | 0 |
| Crop production: | | | | | | |
| Cotton | : bales : | 885 | 798 | -10 | 782 | -12 |
| Corn, all purposes | : bu. : | 35,649 | 40,000 | 12 | 40,000 | 12 |
| Grain sorghums (grain) | : do : | 1,833 | 2,600 | 42 | 2,600 | 42 |
| Wheat | : do : | 1,653 | 1,330 | -20 | 1,260 | -24 |
| Oats for grain | : do : | 12,364 | 14,840 | 20 | 14,000 | 13 |
| Rice | : do : | - | - | - | - | - |
| Flaxseed | : do : | 2 | 100 | 4,900 | 100 | 4,900 |
| Other small grains | : do : | 684 | 684 | 0 | 684 | 0 |
| Soybeans (for beans) | : do : | 5 | 5 | 0 | 5 | 0 |
| All hay | : tons : | 913 | 1,027 | 12 | 1,300 | 42 |
| Peanuts | : lbs. : | 21,235 | 25,482 | 20 | 25,482 | 20 |
| Sugar cane (sugar) | : tons : | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef and veal, L.W. | : lbs. : | 108,448 | 141,481 | 30 | 143,592 | 32 |
| Pork, L. . | : do : | 129,151 | 139,620 | 8 | 174,525 | 35 |
| Lamb & mutton, L.W. | : do : | 6,965 | 8,010 | 15 | 9,472 | 36 |
| Milk | : gal. : | 131,157 | 144,273 | 10 | 150,633 | 15 |
| Wool shorn | : lbs. : | 2,358 | 2,712 | 15 | 3,208 | 36 |
| Chicken eggs | : doz. : | 53,662 | 53,662 | 0 | 53,662 | 0 |
| Chickens raised | : head : | 9,967 | 9,967 | 0 | 9,967 | 0 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Increasingly serious problems of production, combined with the loss of foreign markets, brought about slightly more than a 50 percent reduction in the acreage devoted to cotton during the period 1929-39. Considerable acreage of the land formerly devoted to crops was converted to pasture as the cotton acreage was reduced, the 1939 cropland acreage being only 87 percent of the 1929 acreage. Feed crops increased moderately, but livestock did not increase in proportion to the increase in feed producing potentialities, resulting in the production of surplus feed and an increase in idle cropland. The comparative slowness of the development of livestock enterprises is largely accounted for by (1) a high proportion of share-tenant operated farms, (2) completely inadequate fencing and a general lack of other facilities for handling livestock, and (3) widespread unfamiliarity with livestock enterprises of a commercial type. That these deterrents are being mitigated, however, is revealed by a slightly more than 10 percent decrease in the numbers of tenant-operated farms, and slight, though positive, gains in the numbers of all kinds of productive livestock during the last 10 years.

With improved prices for livestock and livestock products for the duration of the present emergency, adjustments in farm enterprises which have been progressing gradually are expected to be accelerated. Livestock production is expected to increase substantially in terms of actual amounts of meat and milk, although the percentage increase will be only moderate. Increased emphasis will be given to the production of minor cash crops, particularly small grains, vegetables and peanuts. With a shift toward more extensive types of enterprises an increase in sizes of farms is expected, resulting in a probable displacement of 5 percent of the present number of farm operators. With the decrease in numbers of farms, a probable decrease of 10 percent in cropland will occur, but most of the cropland retired from cultivation will be low-quality land that is now mainly idle.

With physical resources incapable of permanently supporting an intensive cotton economy such as has prevailed in the past, desirable adjustments in the Black Waxy Prairie clearly should be in the direction of more extensive systems of farming, emphasizing livestock and feed production. It is likely that cotton will eventually be relegated to only the most suitable parts of the area where yields are good and where labor-saving equipment can be used most advantageously. To utilize pasture and feed potentialities, substantial increases in livestock numbers will be necessary. Furthermore, if farm labor is to be used with reasonable efficiency, at least a 32 percent reduction in the number of farm operators, compared with 1939, will be necessary by the time desirable adjustments in enterprises are accomplished.

Gulf Coast Cotton

Subarea 7

Farming in the coastal cotton area is characterized by a complex pattern of specialized types of production, all on a highly commercialized scale. The principal types of farm organization are (1) cotton farms, which range from family-size units in the eastern and interior parts to large, highly mechanized units in the western part commonly designated as the "Corpus Christi" area; (2) commercial truck farms; (3) rice farms which are highly commercialized and frequently corporation-owned and operated, and (4) livestock farms which are closely associated with rice farms, but with separate operators leasing idle rice land and non-crop land. In general, farming systems are highly flexible and as they are adequately financed, rapid changes in production are possible.

Physical problems of production are primarily related to drainage, control of insect and weed pests, and overcoming mineral deficiencies which are particularly critical with regard to livestock production. With generally level surface features and climatic conditions encouraging an almost year-round vegetative growth, erosion is a comparatively minor problem.

In view of the increased demand for all types of food products, an increase of 14 percent in milk production is expected, and it is both desirable and probable that milk production will be maintained at this higher level after defense activities in adjacent industrial areas have subsided. Only slight increases in the production of other livestock and livestock products are expected, as pasture and feed resources are rather fully utilized at present. Unless livestock breeding and feeding experimentation and studies of pasture improvement are successful in overcoming the present environmental difficulties, it is doubtful that livestock enterprises should ever be expanded much beyond present levels.

The prospective reduction of 10 percent in cotton acreage will result in moderate increases in feed crops. However, a large proportion of the farms affected by cotton allotments are now producing surplus feed and so additional feed crops will be produced mainly for sale. Aside from the fact that feed crops offer a poor cash crop alternative to cotton, the curtailment of cotton production will result in lowered efficiency in the use of equipment. As the adoption of more desirable alternatives to cotton are made in other sections, it may be desirable to increase cotton 7 percent over the 1939 acreage, most of the increase being allocated to the Corpus Christi area which is preeminently adapted to cotton production; here large acreages are needed to make efficient use of large-scale equipment, and the soils are such that agricultural resources may be maintained even though the acreage of cotton is increased somewhat. However, it may be desirable during the next few years to reduce cotton acreage temporarily in some localities to control possible infestations of pink bollworm.

Table 12. - Land use, cropland and livestock organization and production, present and estimated, Subarea 7, Gulf Coast Cotton (Texas)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ | |
|------------------------------|------------|----------------|---------------------|---------------------------------|---------------------------------------|---------|
| | | | | | Total | Change |
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres : | 6,981 | 6,981 | - | 6,981 | - |
| Number of farms | : number : | 23 | 23 | 0 | 23 | 0 |
| All land in farms | : acres : | 5,437 | 5,437 | 0 | 5,437 | 0 |
| Cropland | : do : | 1,527 | 1,527 | 0 | 1,527 | 0 |
| Pasture (excl. woodland) | : do : | 2,985 | 2,985 | 0 | 2,985 | 0 |
| Woodland (total) | : do : | 813 | 813 | 0 | 813 | 0 |
| Other land in farms | : do : | 112 | 112 | 0 | 112 | 0 |
| Cotton | : do : | 577 | 519 | -10 | 616 | 7 |
| Corn, all purposes | : do : | 305 | 320 | 5 | 315 | 3 |
| Grain sorghums (grain) | : do : | 65 | 66 | 2 | 61 | - 6 |
| Wheat | : do : | - | - | - | - | - |
| Oats for grain | : do : | - | - | - | - | - |
| Rice | : do : | 87 | 109 | 25 | 109 | 25 |
| Flaxseed | : do : | 6 | 90 | 1,400 | 190 | 3,067 |
| Other small grains | : do : | - | - | - | - | - |
| Soybeans (for beans) | : do : | - | - | - | - | - |
| All hay | : do : | 191 | 200 | 5 | 188 | - 2 |
| Peanuts | : do : | - | - | - | - | - |
| Tomatoes | : do : | - | - | - | - | - |
| Other comml. vegetables | : do : | 35 | 48 | 37 | 48 | 37 |
| Sugar cane (sugar) | : do : | - | - | - | - | - |
| Other crops | : do : | 31 | 67 | 116 | - | -100 |
| Idle cropland | : do : | 230 | 108 | -53 | - | -100 |
| Horses and mules | : head : | 86 | 71 | -17 | 71 | -17 |
| All cattle | : do : | 601 | 608 | 1 | 608 | 1 |
| Cows kept for milk | : do : | 86 | 93 | 8 | 93 | 8 |
| All swine | : do : | 130 | 131 | 1 | 130 | 0 |
| All sheep | : do : | 33 | 34 | 3 | 34 | 3 |
| All chickens | : do : | 1,774 | 1,816 | 2 | 1,816 | 2 |
| Crop production: | | | | | | |
| Cotton | : bales : | 288 | 222 | -23 | 265 | - 8 |
| Corn, all purposes | : bu. : | 5,887 | 5,320 | -10 | 5,160 | -12 |
| Grain sorghums (grain) | : do : | 1,465 | 1,296 | -12 | 1,186 | -19 |
| Wheat | : do : | - | - | - | - | - |
| Oats for grain | : do : | - | - | - | - | - |
| Rice | : do : | 4,604 | 5,755 | 25 | 5,755 | 25 |
| Flaxseed | : do : | 74 | 1,080 | 1,359 | 2,280 | 2,981 |
| Other small grains | : do : | - | - | - | - | - |
| Soybeans (for beans) | : do : | - | - | - | - | - |
| All hay | : tons : | 285 | 344 | 20 | 302 | 6 |
| Peanuts | : lbs. : | - | - | - | - | - |
| Sugar cane (sugar) | : tons : | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. : | 150,985 | 152,803 | 1 | 152,803 | 1 |
| Pork, L.W. | : do : | 31,853 | 32,173 | 1 | 31,853 | 0 |
| Lamb & mutton, L.W. | : do : | 484 | 503 | 4 | 503 | 4 |
| Milk | : gal. : | 22,606 | 25,735 | 14 | 25,735 | 14 |
| Wool shorn | : lbs. : | 165 | 173 | 5 | 173 | 5 |
| Chicken eggs | : doz. : | 12,461 | 12,705 | 2 | 12,705 | 2 |
| Chickens raised | : head : | 1,565 | 1,599 | 2 | 1,599 | 2 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

The increased demand resulting from industrial activities in the proximity of the area is expected to bring forth an increase in vegetable production equivalent to slightly more than one-third of the present production. The area furnishes a suitable environment for both winter and summer grown truck crops, and it is desirable that the production of fresh vegetables should be permanently maintained at this higher level.

Flaxseed production has been in a developmental process for several years. Suitable varieties and cultural methods are reasonably well perfected at present, and with the stimulus of improved prices, an average of 90,000 acres is expected to be harvested during the period 1943-45. The acreage devoted to this crop probably will, and should, increase an additional 100,000 acres over the long run.

The acreage of rice in this area increased substantially during recent years. With increasingly favorable prices in prospect and improved irrigation and drainage facilities, an increase of 25 percent in the acreage devoted to rice is expected over the 1943-45 period, notwithstanding deductions for overplanting. Considering the favorable yields and the heavy capital investments required for developing rice land, the increased acreage should probably be maintained.

Texas-Oklahoma Cross Timbers and Grand Prairie

Subarea 8

Physical resources of the Cross Timbers-Grand Prairie area vary widely in quality and suitability for various uses. The soils of the Grand Prairie proper are mostly dark clays and clay loams and they vary from deep, highly fertile phases adapted to a wide variety of crops, to shallow stony phases devoted principally to pasture. The Cross Timbers consists of a large, irregularly shaped body of sandy, scrub-oak and mesquite-covered land which includes the central grazing areas of Texas and Oklahoma. Much of the deep sandy soil, which is free of stone, and many of the small, though closely interspersed clay prairies, have been at some time, or are at present, in cultivation. The transition between the Cross Timbers and the Grand Prairie is so irregular and complex as to prohibit separate delineations except for very detailed examination.

Although more than half the land area is occupied by large stock farms and ranches, the larger portion of the total number of farms are row-crop and livestock, and small grain and livestock types of units. The principal crops are cotton, small grains, corn, and grain sorghums. In some of the localities with deep sandy soils, (particularly in the Texas Cross Timbers), peanuts, truck crops, and fruit are of considerable local importance.

Cotton has been declining in importance for the past 20 years and at an accelerated rate since 1930. With the decreasing importance of cotton and increasing cognizance of progressive erosion damage, considerable cropland has reverted to pasture and the number of farms has decreased substantially, this being particularly true of the Cross Timbers portion of the area.

Table 13. - Land use, cropland and livestock organization and production, present and estimated, Subarea 8, Texas-Oklahoma Cross Timbers and Grand Prairie (Texas and Oklahoma)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected : change : from 1939 | Long-time desirable (tentative) 1/ Total | Change Percent |
|------------------------------|----------|----------------|---------------------|-------------------------------------|------------------------------------------------|-------------------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres | 20,007 | 20,007 | - | 20,007 | - |
| Number of farms | : number | 77.2 | 70.0 | - 9 | 55.0 | -29 |
| All land in farms | : acres | 17,013 | 17,013 | 0 | 17,013 | 0 |
| Cropland | : do | 13,941 | 14,745 | - 4 | 3,885 | -21 |
| Pasture (excl. woodland) | : do | 9,635 | 9,831 | 2 | 11,378 | 18 |
| Woodland (total) | : do | 2,048 | 2,048 | 0 | 1,361 | -34 |
| Other land in farms | : do | 389 | 389 | 0 | 389 | 0 |
| Cotton | : do | 616 | 581 | -10 | 341 | -47 |
| Corn, all purposes | : do | 963 | 911 | - 5 | 709 | -26 |
| Grain sorghums (grain) | : do | 158 | 173 | 9 | 182 | 15 |
| Wheat | : do | 398 | 391 | - 2 | 109 | 3 |
| Oats for grain | : do | 779 | 808 | 4 | 748 | - 4 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 169 | 169 | 0 | 169 | 0 |
| Soybeans (for beans) | : do | 1 | 1 | 0 | 1 | 0 |
| All hay | : do | 799 | 870 | 9 | 1,012 | 27 |
| Peanuts | : do | 111 | 134 | 21 | 111 | 0 |
| Tomatoes | : do | 3 | 4 | 33 | 4 | 33 |
| Other comml. vegetables | : do | 11 | 14 | 27 | 14 | 27 |
| Sugar cane (sugar) | : do | - | - | - | - | - |
| Other crops | : do | 277 | 263 | - 5 | 182 | -34 |
| Idle cropland | : do | 626 | 426 | -32 | - | -100 |
| Horses and mules | : head | 237 | 223 | - 6 | 172 | -27 |
| All cattle | : do | 1,104 | 1,139 | 3 | 1,194 | 8 |
| Cows kept for milk | : do | 321 | 345 | 7 | 352 | 10 |
| All swine | : do | 425 | 425 | 0 | 370 | -13 |
| All sheep | : do | 1,149 | 1,157 | 1 | 1,192 | 4 |
| All chickens | : do | 5,478 | 5,478 | 0 | 4,090 | -25 |
| Crop production: | | | | | | |
| Cotton | : bales | 175 | 142 | -19 | 91 | -48 |
| Corn, all purposes | : bu. | 11,912 | 11,778 | - 1 | 9,135 | -23 |
| Grain sorghums (grain) | : do. | 1,679 | 1,886 | 12 | 1,976 | 18 |
| Wheat | : do | 5,278 | 5,036 | - 5 | 5,275 | 0 |
| Oats for grain | : do | 19,367 | 19,765 | 2 | 18,635 | - 4 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 2,874 | 2,874 | 0 | 2,874 | 0 |
| Soybeans (for beans) | : do | 8 | 8 | 0 | 8 | 0 |
| All hay | : tons | 782 | 868 | 11 | 1,012 | 29 |
| Peanuts | : lbs. | 50,108 | 61,000 | 22 | 50,108 | 0 |
| Sugar cane (sugar) | : tons | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. | 253,443 | 261,107 | 3 | 271,084 | 8 |
| Pork, L.W. | : do | 113,979 | 113,979 | 0 | 99,819 | -12 |
| Lamb & mutton, L.W. | : do | 21,589 | 21,905 | 1 | 23,168 | 7 |
| Milk | : gal. | 118,674 | 129,894 | 99 | 132,052 | 11 |
| Wool shorn | : lbs. | 7,724 | 7,773 | 1 | 7,971 | 3 |
| Chicken eggs | : doz. | 38,928 | 40,427 | 4 | 31,155 | -20 |
| Chickens raised | : head | 6,304 | 6,304 | 0 | 4,716 | -25 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

These adjustments toward more extensive types of enterprises are expected to continue. With increased prices for agricultural products, cropland is expected to be more fully utilized. Moderate increases in the production of feed grains and hay are likely to occur and a substantial amount of idle land will be returned to permanent pasture. Although the assumed 10 percent reduction in cotton acreage will be fully effective in reducing the normal production an equivalent amount, the prospective prices are expected to retain a substantial acreage in cotton which could be more profitably used for feed and pasture production if labor and land resources were efficiently utilized. High prices for cotton will also be largely responsible for encouraging approximately 8,000 farmers to remain in the area whose economic interests would be best served in the long run by seeking their livelihood in other areas and other occupations while such opportunities are most favorable.

Eventually, desirable adjustments in the organization of farms should reduce the present number of farms by slightly more than one-fourth, convert approximately 20 percent of the cropland to permanent pasture, clear and establish pasture on nearly 700,000 acres of woodland, and substantially increase the production of feed crops, beef, milk, wool, and mutton. As the Grand Prairie has definitely superior soil resources and a predominance of farms that are efficiently organized at present, most of these adjustments should occur in the Cross Timbers segment of the area where much of the land is unsuited for cultivation and many of the farms are too small for efficient operation.

Central and Northeast Oklahoma Prairies
(Wheat and General Farming)

Subarea 9

Wheat and general farming systems are followed in most of this area. Prairie soils predominate except in the eastern portion of Osage County.

In general, farming in the area appears to be in good adjustment from a physical land use standpoint. The adjustment problem is therefore economic, arising because of the changed demand for wheat, the chief cash enterprise. Some differences exist in the agriculture of the Northeast and Central Prairies for the wheat system predominates in the latter, whereas a more general type of farming is prevalent in the former. The data presented for this area are heavily weighted by conditions in the Central Prairie part since it is much larger than the more general farming Eastern Prairie part.

The area is well-suited to wheat production, the 1939 yields averaging nearly 18 bushels per acre. Over two-thirds of the cropland acreage in the Central Prairies was in wheat in 1939. The trend in wheat acreage during the last ten years has been upward. Cotton acreage, although relatively unimportant, was reduced nearly 75 percent between 1930 and 1940. Corn acreage has been replaced to a large extent by oats and other small grains. Increased mechanization has reduced workstock

Table 14. - Land use, cropland and livestock organization and production, present and estimated, Subarea 9, Central and Northeast Oklahoma Prairies (Wheat and General Farming) (Oklahoma)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|------------|----------------|---------------------|---------------------------------|---------------------------------|------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | | 1,000 | Percent |
| Total land area | : acres : | 8,867 | 8,867 | - | | 8,867 | - |
| Number of farms | : number : | 35.6 | 35.0 | - 2 | | 33.6 | - 6 |
| All land in farms | : acres : | 7,674 | 7,674 | 0 | | 7,674 | 0 |
| Cropland | : do : | 3,756 | 3,756 | 0 | | 3,688 | - 2 |
| Pasture (excl. woodland) | : do : | 3,241 | 3,241 | 0 | | 3,309 | 2 |
| Woodland (total) | : do : | 378 | 378 | 0 | | 378 | 0 |
| Other land in farms | : do : | 299 | 299 | 0 | | 299 | 0 |
| Cotton | : do : | 45 | 42 | - 7 | | 27 | -40 |
| Corn, all purposes | : do : | 322 | 326 | 1 | | 302 | - 6 |
| Grain sorghums (grain) | : do : | 57 | 66 | 16 | | 60 | 5 |
| Wheat | : do : | 1,906 | 1,400 | -27 | | 1,848 | - 3 |
| Oats for grain | : do : | 409 | 463 | 13 | | 435 | 6 |
| Rice | : do : | - | - | - | | - | - |
| Flaxseed | : do : | - | - | - | | - | - |
| Other small grains | : do : | 211 | 239 | 13 | | 233 | 10 |
| Soybeans (for beans) | : do : | - | - | - | | - | - |
| All hay | : do : | 391 | 424 | 8 | | 432 | 10 |
| Peanuts | : do : | - | - | - | | - | - |
| Tomatoes | : do : | - | - | - | | - | - |
| Other comml. vegetables | : do : | 3 | 3 | 0 | | 3 | 0 |
| Sugar cane (sugar) | : do : | - | - | - | | - | - |
| Other crops | : do : | 213 | 594 | 179 | | 348 | 63 |
| Idle cropland | : do : | 199 | 199 | 0 | | - | -100 |
| Horses and mules | : head : | 94 | 79 | -16 | | 75 | -20 |
| All cattle | : do : | 611 | 644 | 5 | | 691 | 13 |
| Cows kept for milk | : do : | 165 | 173 | 5 | | 174 | 5 |
| All swine | : do : | 277 | 302 | 9 | | 313 | 13 |
| All sheep | : do : | 129 | 151 | 17 | | 151 | 17 |
| All chickens | : do : | 2,875 | 3,306 | 15 | | 3,249 | 13 |
| Crop production: | | | | | | | |
| Cotton | : bales : | 18 | 16 | -11 | | 10 | -44 |
| Corn, all purposes | : bu. : | 4,878 | 4,939 | 1 | | 4,536 | - 7 |
| Grain sorghums (grain) | : do : | 586 | 676 | 15 | | 611 | 4 |
| Wheat | : do : | 33,862 | 24,882 | -27 | | 32,843 | - 3 |
| Oats for grain | : do : | 8,300 | 9,350 | 13 | | 8,843 | 7 |
| Rice | : do : | - | - | - | | - | - |
| Flaxseed | : do : | - | - | - | | - | - |
| Other small grains | : do : | 4,021 | 4,661 | 16 | | 4,514 | 12 |
| Soybeans (for beans) | : do : | - | - | - | | - | - |
| All hay | : tons : | 469 | 519 | 11 | | 531 | 13 |
| Peanuts | : lbs. : | - | - | - | | - | - |
| Sugar cane (sugar) | : tons : | - | - | - | | - | - |
| Livestock production: | | | | | | | |
| Beef and veal, L.W. | : lbs. : | 154,671 | 171,651 | 11 | | 176,303 | 14 |
| Pork, L.W. | : do : | 72,672 | 81,225 | 12 | | 82,420 | 13 |
| Lamb & mutton, L.W. | : do : | 5,992 | 7,293 | 22 | | 7,290 | 22 |
| Milk | : gal. : | 60,214 | 63,818 | 6 | | 66,235 | 10 |
| Wool shorn | : lbs. : | 936 | 1,114 | 19 | | 1,138 | 22 |
| Chicken eggs | : doz. : | 19,774 | 23,715 | 20 | | 24,064 | 22 |
| Chickens raised | : head : | 4,687 | 5,453 | 16 | | 5,114 | 16 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

numbers drastically; hog numbers have also declined; but cattle numbers have increased materially during the last 10 years.

As a result of the wheat marketing quota a marked reduction in wheat acreage is expected for farmers have been materially overplanting their allotments in this area during the last few years.

Many of the farmers are equipped to produce wheat; it is therefore expected that a large part of the acreage diverted from wheat will be devoted to other small grains. As a result of the increased acreage of feed grains and increased prices for livestock products, it is expected that numbers and production of all livestock except workstock, will increase substantially during the 1943-45 period.

Over the long run, with the high comparative advantage that wheat enjoys, it is doubtful whether the acreage should be reduced. Nevertheless, there appears to be justification for increases in livestock numbers, over 1939 numbers, because (1) further decreases in workstock numbers should occur; (2) better utilization of pastures is desirable, and (3) a larger portion of barley, oats, and rye should be fed.

Low Rolling Plains

Subarea 10

The wide variation in soils and relief of this area accounts almost entirely for the varied types of farming that are found. On the more level sandy loam soils are large-scale specialized cotton farms, very similar to the cotton farms of the High Plains Cotton Area. A more diversified, or general, type of farming, characterized by small grain and livestock, and row-crop and livestock systems, is usually found on the heavier soils, or "tight land". Large cattle ranches occupy the rough areas which are predominantly unsuited for cultivation. Most of the ranching and specialized cotton production occurs in the Texas part of the area while small grain production and general types of farming are more characteristic of the part in Oklahoma.

In the farming localities where the heavier clay soils occur, there has been a decided tendency for small grains to replace cotton in the farming systems. In the Oklahoma portion, where most of the heavier soils are found, the cotton acreage decreased by more than 60 percent during the last decade, while the small grain acreage, principally wheat, increased by 26 percent. In the Texas portion where the cropland is predominantly sandy and less suitable for small grains, the cotton acreage decreased only by 25 percent, and there was but a small increase in the acreage devoted to small grains.

The prospective reduction in the acreage of wheat and cotton will be particularly marked in the Oklahoma portion of the area where wheat allotments have been generally overplanted. In the Texas part wheat allotments are believed to have been generally underplanted and wheat production is

Table 15. - Land use, cropland and livestock organization and production, present and estimated, Subarea 10, Low Rolling Plains (Texas and Oklahoma)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change Percent |
|------------------------------|--------|----------------|---------------------|---------------------------------|------------------------------------------------|-------------------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | acres | 23,620 | 23,620 | - | 23,620 | - |
| Number of farms | number | 63.0 | 58.0 | - 8 | 58.0 | - 8 |
| All land in farms | acres | 21,541 | 21,541 | 0 | 21,541 | 0 |
| Cropland | do | 8,071 | 7,838 | - 3 | 6,818 | -15 |
| Pasture (excl. woodland) | do | 11,977 | 12,210 | 2 | 13,230 | 10 |
| Woodland (total) | do | 1,118 | 1,118 | 0 | 1,118 | 0 |
| Other land in farms | do | 375 | 375 | 0 | 375 | 0 |
| Cotton | do | 2,310 | 2,079 | -10 | 2,539 | 10 |
| Corn, all purposes | do | 257 | 257 | 0 | 138 | -46 |
| Grain sorghums (grain) | do | 1,032 | 1,175 | 14 | 788 | -24 |
| Wheat | do | 912 | 860 | - 6 | 360 | - 6 |
| Oats for grain | do | 307 | 370 | 20 | 370 | 20 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 233 | 383 | 21 | 302 | 30 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | do | 971 | 1,093 | 13 | 993 | 2 |
| Peanuts | do | 10 | 10 | 0 | 10 | 0 |
| Tomatoes | do | - | - | - | - | - |
| Other comml. vegetables | do | 6 | 6 | 0 | 6 | 0 |
| Sugar cane (sugar) | do | - | - | - | - | - |
| Other crops | do | 1,390 | 986 | -21 | 312 | -37 |
| Idle cropland | do | 743 | 720 | - 3 | - | -100 |
| Horses and mules | head | 110 | 152 | -28 | 111 | -31 |
| All cattle | do | 1,010 | 1,040 | 3 | 1,093 | 8 |
| Cows kept for milk | do | 271 | 301 | 10 | 301 | 10 |
| All swine | do | 293 | 293 | 0 | 255 | -13 |
| All sheep | do | 822 | 831 | 1 | 852 | 4 |
| All chickens | do | 5,109 | 5,109 | 0 | 5,109 | 0 |
| Crop production: | | | | | | |
| Cotton | bales | 564 | 586 | 4 | 715 | 27 |
| Corn, all purposes | bu. | 2,231 | 3,002 | 55 | 1,820 | -18 |
| Grain sorghums (grain) | do | 8,621 | 10,562 | 115 | 12,273 | 42 |
| Wheat | do | 9,078 | 8,956 | - 1 | 8,956 | - 1 |
| Oats for grain | do | 4,162 | 7,170 | 72 | 7,170 | 72 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 2,622 | 3,285 | 25 | 3,513 | 34 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | tons | 1,124 | 1,236 | 10 | 1,198 | - 1 |
| Peanuts | lbs. | 3,678 | 3,678 | 0 | 3,678 | 0 |
| Sugar cane (sugar) | tons | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L. | lbs. | 255,229 | 262,778 | 3 | 266,931 | 5 |
| Pork, L. | do | 70,444 | 70,444 | 0 | 60,306 | -14 |
| Lamb & mutton, L. | do | 19,392 | 19,954 | 3 | 20,719 | 7 |
| Milk | gal. | 111,766 | 122,943 | 10 | 122,943 | 10 |
| Wool shorn | lbs. | 6,515 | 6,599 | 1 | 6,724 | 3 |
| Chicken eggs | doz. | 35,951 | 35,714 | 2 | 35,714 | 2 |
| Chickens raised | head | 6,501 | 6,501 | 0 | 6,501 | 0 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

expected to increase slightly as the cotton acreage is reduced. Throughout the area the effect of additional reductions in cotton and wheat production will tend to increase substantially the production of feed grains, hay, and pasture. Although livestock enterprises are expected to increase as far as is desirable, it is likely that considerable feed will be disposed of as a cash crop. Additional restrictions on cotton and wheat production are expected to have the desirable effect of restoring some marginal cropland to permanent pasture and eliminating a number of small, poorly organized crop farms. Eventually adjustments in land use which are desirable from the standpoint of conservation should result in the retiring of a total of 1,250,000 acres of cropland to permanent pasture. Although almost 60 percent of this acreage was idle in 1939, such an adjustment will result in a considerable reduction of feed supplies, necessitating slight reductions in swine and poultry enterprises which are least capable of utilizing the increased amounts of pasture.

No more than a slight increase in the production of beef in the ranching part of the area can be expected, even though the expected prices are considerably above those which have prevailed during recent years. The range is rather heavily stocked and it is doubtful that an increase in stocking rates would result in a higher total production.

High Plains Cotton

Subarea 11

Production of cotton supplied the basis for the development of the present type of agriculture characterizing the High Plains Cotton Area. Although the rapid transformation of a strictly ranching area into the present highly specialized cotton producing area was undoubtedly facilitated greatly by a period of abnormal cotton and beef price relationships, returns from cotton are at a considerably higher level than returns from grazing enterprises, the only major alternative, under more normal price relationships. During the last census period cropland increased 363,000 acres, or 15 percent. Notwithstanding an unusually high proportion of unfavorable crop seasons, low cotton prices, and Federal restrictions on cotton production, the 1939 cotton acreage in this area was only slightly less than three-fourths of the 1929 acreage. Because of the highly specialized organization of most of the farms in this area, increases in grain and hay consuming animals have been considerably less than in proportion to increases in feed production accompanying the reduction in cotton acreage. The area is now producing approximately twice the quantity of grain and hay necessary for present numbers of livestock. Moreover, the amount of idle cropland in 1939 was approximately 320 percent greater than in 1929.

Mechanization has been occurring at a rapid rate as revealed by a 66 percent reduction in numbers of workstock between 1930 and 1940. During this same period the amount of cropland increased from 147 acres per farm in 1929 to 200 acres per farm in 1939. These changes in size of farms and type of equipment resulted in the displacement of 15 percent of the 1929 number of farm operators.

Table 16. - Land use, cropland and livestock organization and production, present and estimated, Subarea 11, High Plains Cotton (Texas)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected : change from 1939 | Expected : Long-time desirable (tentative) 1/ Total | Change |
|--------------------------|--------|----------------|---------------------|-----------------------------------|-----------------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | acres | 5,874 | 5,874 | - | 5,874 | - |
| Number of farms | number | 14 | 14 | 0 | 14 | 0 |
| All land in farms | acres | 5,167 | 5,167 | 0 | 5,167 | 0 |
| Cropland | do | 2,790 | 2,790 | 0 | 2,790 | 0 |
| Pasture (excl. woodland) | do | 2,281 | 2,281 | 0 | 2,281 | 0 |
| Woodland (total) | do | 2 | 2 | 0 | 2 | 0 |
| Other land in farms | do | 94 | 94 | 0 | 94 | 0 |
| Cotton | do | 890 | 801 | -10 | 1,370 | 54 |
| Corn, all purposes | do | 68 | 68 | 0 | 68 | - |
| Grain sorghums (grain) | do | 655 | 700 | 7 | 340 | -48 |
| Wheat | do | 44 | 90 | 105 | 90 | 105 |
| Oats for grain | do | 1 | 1 | 0 | 1 | 0 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 6 | 6 | 0 | 6 | 0 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | do | 619 | 665 | 7 | 355 | -43 |
| Peanuts | do | - | - | - | - | - |
| Tomatoes | do | - | - | - | - | - |
| Other comml. vegetables | do | - | - | - | - | - |
| Sugar cane (sugar) | do | - | - | - | - | - |
| Other crops | do | 239 | 259 | 8 | 560 | 154 |
| Idle cropland | do | 268 | 200 | -25 | - | -100 |
| Horses and mules | head | 35 | 23 | -34 | 23 | -34 |
| All cattle | do | 176 | 194 | 10 | 194 | 10 |
| Cows kept for milk | do | 61 | 67 | 10 | 67 | 10 |
| All swine | do | 116 | 116 | 0 | 116 | 0 |
| All sheep | do | 118 | 124 | 5 | 124 | 5 |
| All chickens | do | 1,555 | 1,680 | 8 | 1,680 | 8 |
| Crop production: | | | | | | |
| Cotton | bales | 324 | 303 | -6 | 518 | 60 |
| Corn, all purposes | bu. | 579 | 1,020 | 76 | 1,020 | 76 |
| Grain sorghums (grain) | do | 8,881 | 16,800 | 89 | 8,160 | 9 |
| Wheat | do | 402 | 900 | 124 | 900 | 124 |
| Oats for grain | do | 9 | 23 | 211 | 23 | 211 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 76 | 76 | 0 | 76 | 0 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | tons | 721 | 864 | 20 | 462 | -36 |
| Peanuts | lbs. | - | - | - | - | - |
| Sugar cane (sugar) | tons | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | lbs. | 34,842 | 38,326 | 10 | 38,326 | 10 |
| Pork, L.W. | do | 26,965 | 26,965 | 0 | 26,965 | 0 |
| Lamb & mutton, L.W. | do | 2,135 | 2,242 | 5 | 2,242 | 5 |
| Milk | gal. | 27,603 | 30,363 | 10 | 30,363 | 10 |
| Wool shorn | lbs. | 747 | 784 | 5 | 784 | 5 |
| Chicken eggs | doz. | 9,878 | 10,668 | 8 | 10,668 | 8 |
| Chickens raised | head | 1,455 | 1,571 | 8 | 1,571 | 8 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

A reduction in cotton acreage of 10 percent of the 1939 acreage will bring an increased production of surplus feed, although increases in beef, dairy, and poultry production are expected to result from the increased prices for these products. Livestock enterprises on a commercial scale fit poorly into the production organization of cotton farms, this being particularly true of the beef enterprise, so not more than a 10 percent increase in the production of any livestock product can be expected. Efficient use of temporary pasture possibilities and available feed will justify a permanent increase of 10 percent in beef and milk production, an 8 percent increase in poultry production, and a 5 percent increase in mutton and wool production.

In the long run, when desirable alternatives have been adopted in other areas and since there are no desirable alternatives in this area, an increase is expected in the acreage of cotton in the High Plains, with accompanying decreases in the acreage devoted to soil depleting hays and grain sorghum. The total production would not be a large part of the national production, however. Cotton, yielding an average of 189 pounds per acre, requires only 4.3 man hours per acre before it is harvested, with efficient use of 4-row tractor-drawn equipment. Labor and land engaged in cotton production at this level of productivity clearly cannot be shifted into feed, pasture, and livestock production, without a substantial decrease in output.

The indicated production of livestock and livestock products is believed to represent the maximum that these enterprises can be expanded without bringing them into competition with cotton for the use of labor and land, assuming that this area will eventually devote the minimum acreage to cotton which is necessary for attaining reasonably efficient production. During the immediate future, while areas with a lower comparative advantage in cotton production are shifting to other lines of production, feed crops offer a next best, though a poor, alternative to cotton as a cash crop. Expansion of livestock enterprises to utilize available feed on the farm would entail expansion of facilities and capital outlays which are not considered justifiable in view of the long-time best interest of the area.

High Plains Wheat

Subarea 12

The High Plains Wheat Area, until the period of the first World War, was predominantly a ranching area. Rapid displacement of ranching by large-scale wheat farming began about 1920, and the expanding of wheat production brought into cultivation the most of the more level tracts and considerable land that should have been left in pasture, in view of wind erosion and the long-time demand for wheat. Restoration of submarginal wheat land to pasture has been discouraged by the difficulties involved in revegetating cropland and the sharp contrast between the returns received from wheat in "good" years as compared with per-acre returns the same land will yield in pasture. Cotton is grown largely in the southern and eastern

Table 17. - Land use, cropland and livestock organization and production, present and estimated, Subarea 12, High Plains Wheat (Texas and Oklahoma)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ |
|--------------------------|--------|-------------|------------------|---------------------------|------------------------------------|
| | | 1,000 | 1,000 | Percent | Total Change |
| Total land area | acres | 21,381 | 21,381 | - | 21,381 - |
| Number of farms | number | 30.5 | 29.2 | - 1 | 28.4 - 7 |
| All land in farms | acres | 22,357 | 22,357 | 0 | 22,357 0 |
| Cropland | do | 9,212 | 9,075 | - 1 | 8,791 - 5 |
| Pasture (excl. woodland) | do | 12,598 | 12,735 | 1 | 13,012 3 |
| Woodland (total) | do | 110 | 110 | 0 | 110 0 |
| Other land in farms | do | 137 | 137 | 0 | 137 0 |
| Cotton | do | 252 | 226 | -10 | 196 -22 |
| Corn, all purposes | do | 92 | 92 | 0 | 92 0 |
| Grain sorghums (grain) | do | 522 | 634 | 21 | 653 25 |
| Wheat | do | 3,479 | 3,278 | - 6 | 3,207 - 8 |
| Oats for grain | do | 94 | 110 | 17 | 115 22 |
| Rice | do | - | - | - | - - |
| Flaxseed | do | - | - | - | - - |
| Other small grains | do | 362 | 387 | 7 | 400 10 |
| Soybeans (for beans) | do | - | - | - | - - |
| All hay | do | 1,000 | 1,115 | 11 | 1,159 16 |
| Peanuts | do | - | - | - | - - |
| Tomatoes | do | - | - | - | - - |
| Other comml. vegetables | do | - | - | - | - - |
| Sugar cane (sugar) | do | - | - | - | - - |
| Other crops | do | 1,639 | 1,461 | -11 | 1,788 9 |
| Idle cropland | do | 1,772 | 1,772 | 0 | 1,181 -33 |
| Horses and mules | head | 93 | 82 | -12 | 82 -12 |
| All cattle | do | 965 | 1,031 | 7 | 986 2 |
| Cows kept for milk | do | 163 | 170 | 4 | 170 4 |
| All swine | do | 202 | 226 | 12 | 223 10 |
| All sheep | do | 197 | 233 | 18 | 233 18 |
| All chickens | do | 2,510 | 2,461 | - 2 | 2,501 0 |
| Crop production: | | | | | |
| Cotton | bales | 67 | 60 | -10 | 52 -22 |
| Corn, all purposes | bu. | 629 | 629 | 0 | 629 0 |
| Grain sorghums (grain) | do | 5,008 | 5,903 | 18 | 6,039 21 |
| Wheat | do | 35,460 | 33,224 | - 6 | 30,985 -13 |
| Oats for grain | do | 1,364 | 1,588 | 16 | 1,674 23 |
| Rice | do | - | - | - | - - |
| Flaxseed | do | - | - | - | - - |
| Other small grains | do | 3,898 | 4,269 | 10 | 4,421 13 |
| Soybeans (for beans) | do | - | - | - | - - |
| All hay | tons | 835 | 923 | 10 | 966 16 |
| Peanuts | lbs. | - | - | - | - - |
| Sugar cane (sugar) | tons | - | - | - | - - |
| Livestock production: | | | | | |
| Beef & veal, L.W. | lbs. | 218,557 | 276,408 | 26 | 245,007 12 |
| Pork, L.W. | do | 48,522 | 56,262 | 16 | 53,688 10 |
| Lamb & mutton, L.W. | do | 5,061 | 5,960 | 18 | 5,960 18 |
| Milk | gal. | 69,960 | 73,498 | 5 | 76,996 10 |
| Wool shorn | lbs. | 1,392 | 1,630 | 17 | 1,630 17 |
| Chicken eggs | doz. | 17,163 | 19,409 | 13 | 20,545 20 |
| Chickens raised | head | 3,757 | 4,258 | 13 | 4,321 15 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

margins of the area where climatic conditions, though highly precarious, are the least unfavorable.

The prospective cut in wheat acreage will result in a 6 percent reduction in production, being most effective in the highly specialized areas where plantings are equal to or in excess of allotments at present. A decline of 4 percent in the total number of farms is expected by 1945. Most of this decrease will occur in submarginal wheat and cotton areas where livestock enterprises are expected to supplant cash crops, resulting in the consolidation of small crop farms into larger and more efficient operating units. Increased feed supplies as a consequence of the diversion of land normally devoted to cash crops are expected to bring substantial increases in beef, pork, and mutton production.

Long-time adjustments in this area should result in (1) eliminating approximately 7 percent of the present number of farms by combining small inefficiently organized units into larger cash grain or livestock and feed types of units, (2) revegetating slightly more than 420,000 acres of submarginal cropland, (3) reducing wheat and cotton acreages by 8 and 22 percent respectively, and (4) adjusting livestock enterprises in keeping with available feed and pasture.

Grazing Areas

Subarea 13

This area roughly corresponds with the subhumid area of southwestern Texas, being bounded on the east by the 25-inch isohyet. The average annual rainfall varies from 25 inches on the eastern margin to less than 10 inches in the western extremity. Temperatures are moderate, with the growing season varying from 220 to 300 frost-free days, depending upon latitude and elevations. The economy is predominantly one of large-scale ranching in which year-round grazing of beef cattle, sheep, and angora goats all constitute significant enterprises, varying in importance according to locality, topography, climate, and type of vegetation. Crop production is confined to irrigated valleys and to extensions of adjacent farming areas which are dissimilar to the predominating geographic features and are included only because of the generality of the delineations.

The increased demand for livestock and livestock products can bring forth but little additional production of livestock products here. In general, livestock numbers have already increased to the point that the range is fully stocked, and any significant increase in breeding herds will probably result in an offsetting reduction in per-unit production rates. Milk, pork, and poultry production provide possible exceptions, although the present production of these farm commodities is comparatively small.

Except where irrigation facilities are available, cash crop farming is highly speculative. In view of the low yields of cotton (cotton is the principal cash crop) the acreage of cotton is likely to be reduced substantially in the dry farming parts as increased emphasis is given to feed and

Table 18. - Land use, cropland and livestock organization and production, present and estimated, Subarea 13, Grazing Areas (Texas)

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Expected : Long-time desirable (tentative) 1/ Total | Change |
|--------------------------|--------|----------------|---------------------|---------------------------------|-----------------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | acres | 64,828 | 64,828 | - | 64,828 | - |
| Number of farms | number | 35 | 35 | 0 | 35 | 0 |
| All land in farms | acres | 55,774 | 55,774 | 0 | 55,774 | 0 |
| Cropland | do | 2,623 | 2,523 | 0 | 2,389 | - 5 |
| Pasture (excl. woodland) | do | 49,879 | 49,879 | 0 | 51,716 | 4 |
| Woodland (total) | do | 3,203 | 3,203 | 0 | 1,500 | -53 |
| Other land in farms | do | 169 | 169 | 0 | 169 | 0 |
| Cotton | do | 462 | 416 | -10 | 274 | -41 |
| Corn, all purposes | do | 341 | 358 | 5 | 381 | 12 |
| Grain sorghums (grain) | do | 138 | 143 | 4 | 146 | 6 |
| Wheat | do | 23 | 26 | 13 | 26 | 13 |
| Oats for grain | do | 107 | 128 | 20 | 191 | 78 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 9 | 9 | 0 | 9 | 0 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | do | 552 | 584 | 6 | 816 | 48 |
| Peanuts | do | 42 | 62 | 24 | 51 | 21 |
| Tomatoes | do | 4 | 6 | 50 | 6 | 50 |
| Other comml. vegetables | do | 46 | 65 | 41 | 65 | 41 |
| Sugar cane (sugar) | do | - | - | - | - | - |
| Other crops | do | 509 | 443 | -13 | 424 | -17 |
| Idle cropland | do | 290 | 293 | 1 | - | -100 |
| Horses and mules | head | 193 | 162 | -16 | 162 | -16 |
| All cattle | do | 1,610 | 1,612 | 0 | 1,570 | - 2 |
| Cows kept for milk | do | 136 | 146 | 7 | 146 | 7 |
| All swine | do | 194 | 200 | 3 | 200 | 3 |
| All sheep | do | 7,427 | 7,646 | 3 | 6,811 | - 3 |
| All chickens | do | 1,979 | 2,085 | 5 | 2,085 | 5 |
| Crop production: | | | | | | |
| Cotton | bales | 146 | 145 | - 1 | 117 | -20 |
| Corn, all purposes | bu. | 2,497 | 5,419 | 117 | 5,764 | 131 |
| Grain sorghums (grain) | do | 1,666 | 1,965 | 18 | 2,010 | 21 |
| Wheat | do | 247 | 309 | 25 | 309 | 25 |
| Oats for grain | do | 1,848 | 3,841 | 108 | 5,731 | 210 |
| Rice | do | - | - | - | - | - |
| Flaxseed | do | - | - | - | - | - |
| Other small grains | do | 135 | 135 | 0 | 135 | 0 |
| Soybeans (for beans) | do | - | - | - | - | - |
| All hay | tons | 663 | 758 | 14 | 1,054 | 59 |
| Peanuts | lbs. | 25,379 | 31,582 | 24 | 31,012 | 22 |
| Sugar cane (sugar) | tons | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | lbs. | 503,116 | 514,898 | 2 | 506,174 | 1 |
| Pork, L.W. | do | 50,144 | 51,927 | 3 | 51,693 | 2 |
| Lamb & mutton, L.W. | do | 161,432 | 166,030 | 3 | 161,850 | 0 |
| Milk | gal. | 46,341 | 51,928 | 12 | 52,381 | 13 |
| Wool shorn | lbs. | 59,047 | 60,748 | 3 | 59,279 | 0 |
| Chicken eggs | doz. | 13,480 | 14,196 | 5 | 14,272 | 6 |
| Chickens raised | head | 1,856 | 1,965 | 6 | 1,965 | 6 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

livestock enterprises. Such a change is needed in the interest of conservation and it is believed that it will result in a more prosperous and stable agriculture. In the irrigated valleys, however, particularly of the Rio Grande Plains, cotton fills an important place in the cropping system, a considerable part of the acreage following winter-grown vegetables. Over the long run it would be desirable to maintain approximately the present acreage of cotton in these irrigated districts.

Commercial vegetable production in the Rio Grande Valley irrigated districts is expected to increase by 40 percent. However, if market conditions warrant additional expansion of vegetable production, this estimate will probably prove conservative. Vegetables are produced on a highly commercialized basis, utilizing power-driven equipment and low-cost Mexican labor. The expansion of truck crop enterprises in these irrigated districts is particularly desirable from a farm management standpoint, in that high-cost land will be more efficiently utilized.

State and Regional Summary

The changes in production which are expected to accompany the changed demand situation of the next few years have their greatest significance in terms of homogeneous areas. This is even more true of the estimated changes in production which would result from bringing into better adjustment the land and population resources of the South Central States. However, in view of the fact that agricultural programs are of necessity administered entirely or in part on a State basis, the quantitative estimates presented and discussed in the preceding pages have been broken down and summarized by States. These State summaries, as well as totals for the five States of the South Central Region, are presented in tables 19 to 24. These summaries will also facilitate comparisons with published series of agriculture data.

The regional summary clearly reveals that potentialities for food production in the South Central States are only partially developed at present, and probably will not be fully exploited even with the stimulus expected to accompany the National Defense and Aid-to-Democracies efforts, if left to individual initiative. The expected increases in the production of meats, milk, and eggs over the 1943-45 period represent large quantities of these products, even though the percentage increase is only moderate. However, the increases in production of these products are considerably short of the quantities that would be produced if the agricultural resources were properly adjusted and were functioning efficiently.

For example, to obtain an increase of 268 million gallons of milk (more than twice the increase expected) it would be necessary only to increase the numbers of milk cows by less than two-tenths of a cow per farm and to raise the average production per milk cow to 400 gallons. Considering the large number of breeding stock in the region at present and the quantities of feed that could be produced if diverted cotton and wheat

acreage and almost 9 million acres of idle land were utilized, it is readily apparent that both qualifications for a 21 percent increase in milk production are easily surmountable so far as physical considerations are concerned.

Production of milk, as well as most other food commodities, however, will fall considerably short of desirable goals so long as the "cash crop" philosophy prevails. If leadership can subordinate this philosophy to an active appreciation of the Nation's needs, and adjustment programs are judiciously employed to assist farmers to begin adjustments in keeping with their long-run best economic interests, it is believed that the production estimates indicated for the 1943-45 period can be substantially surpassed.

Over the long run, the South Central States' tentative adjustments in the organization and production of farms will require the eventual displacement of almost 230,000 farm operators, or approximately 1,181,000 farm people. Labor resources are but poorly utilized at present. With prospects for a permanently reduced demand for cotton and with soil resources which are rapidly deteriorating under the present intensive systems of production, the need for shifting to more profitable and conservative lines of production is apparent. As alternative enterprises are limited mainly to livestock and feed production, it is inescapable that the efficient combination of resources in this region will require a continuously decreasing agricultural labor force for many years to come.

Eventual adjustments in land use which are in keeping with soil conservation requirements and with good farm management practices will require a reduction of more than 5 million acres in cropland, with a corresponding increase in permanent pasture. Such a reduction will involve producing a reduced quantity of feed, particularly grain. Hence, over the long run it will probably be desirable that swine and poultry enterprises give way to beef and dairy enterprises, which are able to utilize roughage and additional pasture.

Table 19. - Land use, cropland and livestock organization and production, present and estimated, South Central States (Arkansas, Louisiana, Mississippi, Oklahoma, and Texas)

| Item | Unit | 1939 actual | Expected: 1943-45 | Expected change from 1939 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|------------|----------------|----------------------|---------------------------------|---------------------------------|------------------------------------------------|--------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent | |
| Total land area | : acres : | 306,079 | 306,079 | — | 306,079 | — | |
| Number of farms | : number : | 1,255.4 | 1,212.9 | - 4 | 1,026.3 | - 18 | |
| All land in farms | : acres : | 219,683 | 220,694 | 0 | 222,754 | 1 | |
| Cropland | : do : | 69,094 | 67,585 | - 2 | 63,813 | - 8 | |
| Pasture (excl. woodland) | : do : | 111,687 | 113,914 | 2 | 125,473 | 12 | |
| Woodland (total) | : do : | 32,318 | 32,685 | 1 | 27,331 | - 15 | |
| Other land in farms | : do : | 6,584 | 6,610 | - 1 | 6,132 | - 7 | |
| Cotton | : do : | 15,373 | 13,849 | -10 | 13,729 | - 10 | |
| Corn, all purposes | : do : | 13,314 | 13,602 | 2 | 11,700 | - 12 | |
| Grain sorghums (grain) | : do : | 2,839 | 3,184 | 12 | 2,516 | - 11 | |
| Wheat | : do : | 6,937 | 6,224 | -10 | 6,614 | - 5 | |
| Oats for grain | : do : | 2,732 | 3,422 | 25 | 4,317 | 58 | |
| Rice | : do : | 743 | 836 | 13 | 892 | 20 | |
| Flaxseed | : do : | 7 | 100 | 1,329 | 200 | 2,757 | |
| Other small grains | : do : | 1,071 | 1,174 | 10 | 1,200 | 12 | |
| Soybeans (for beans) | : do : | 159 | 335 | 111 | 985 | 519 | |
| All hay | : do : | 8,508 | 9,216 | 8 | 11,416 | 34 | |
| Peanuts | : do : | 414 | 496 | 20 | 487 | 18 | |
| Tomatoes | : do : | 78 | 93 | 22 | 96 | 26 | |
| Other comml. vegetables | : do : | 306 | 370 | 21 | 421 | 38 | |
| Sugar cane (sugar) | : do : | 227 | 256 | 13 | 294 | 30 | |
| Other crops | : do : | 7,674 | 7,316 | - 5 | 7,770 | 1 | |
| Idle cropland | : do : | 8,714 | 7,112 | -18 | 1,181 | -86 | |
| Horses and mules | : head : | 3,157 | 2,800 | -11 | 2,427 | -23 | |
| All cattle | : do : | 12,502 | 13,111 | 5 | 14,755 | 18 | |
| Cows kept for milk | : do : | 3,527 | 3,725 | 6 | 4,503 | 28 | |
| All swine | : do : | 7,113 | 7,650 | 8 | 7,040 | - 1 | |
| All sheep | : do : | 10,811 | 11,218 | 4 | 10,690 | - 1 | |
| All chickens | : do : | 59,378 | 63,054 | 6 | 63,388 | 7 | |
| Crop production: | | | | | | | |
| Cotton | : bales : | 6,848 | 6,013 | -12 | 6,620 | - 3 | |
| Corn, all purposes | : bu. : | 187,230 | 215,383 | 15 | 200,178 | 7 | |
| Grain sorghums (grain) | : do : | 30,766 | 51,025 | 66 | 37,010 | 20 | |
| Wheat | : do : | 86,981 | 75,617 | -13 | 81,508 | - 6 | |
| Oats for grain | : do : | 63,237 | 90,622 | 43 | 121,820 | 93 | |
| Rice | : do : | 36,833 | 40,639 | 13 | 41,431 | 15 | |
| Flaxseed | : do : | 76 | 1,180 | 1,453 | 2,380 | 3,032 | |
| Other small grains | : do : | 15,046 | 16,720 | 11 | 16,953 | 13 | |
| Soybeans (for beans) | : do : | 1,435 | 4,616 | 222 | 16,122 | 1,023 | |
| All hay | : tons : | 9,472 | 10,610 | 12 | 13,281 | 40 | |
| Peanuts | : lbs. : | 173,704 | 215,404 | 24 | 231,522 | 33 | |
| Sugar cane (sugar) | : tons : | 4,644 | 5,203 | 12 | 6,088 | 31 | |
| Livestock production: | | | | | | | |
| Beef & veal, L.W. | : lbs. : | 2,532,247 | 2,715,167 | 7 | 2,943,626 | 16 | |
| Pork, L.W. | : do : | 1,562,762 | 1,677,421 | 7 | 1,540,849 | - 1 | |
| Lamb & mutton, L.W. | : do : | 233,940 | 243,472 | 4 | 248,817 | 6 | |
| Milk | : gal. : | 1,168,714 | 1,290,513 | 10 | 1,606,859 | 37 | |
| Wool shorn | : lbs. : | 80,660 | 83,412 | 3 | 83,384 | 3 | |
| Chicken eggs | : doz. : | 369,417 | 406,781 | 10 | 428,752 | 16 | |
| Chickens raised | : head : | 86,328 | 92,611 | 7 | 96,035 | 11 | |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Table 20. - Land use, cropland and livestock organization and production, present and estimated, Arkansas

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|----------|----------------|---------------------|---------------------------------|------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres | 33,744 | 33,744 | — | 33,744 | — |
| Number of farms | : number | 216.6 | 211.8 | - 2 | 198.6 | - 8 |
| All land in farms | : acres | 18,045 | 18,346 | 2 | 19,168 | 6 |
| Cropland | : do | 7,649 | 7,677 | 0 | 7,729 | 1 |
| Pasture (excl. woodland) | : do | 3,088 | 3,264 | 6 | 4,426 | 43 |
| Woodland (total) | : do | 6,170 | 6,266 | 2 | 5,715 | - 7 |
| Other land in farms | : do | 1,138 | 1,139 | 0 | 1,298 | 14 |
| Cotton | : do | 2,038 | 1,852 | -10 | 1,852 | -10 |
| Corn, all purposes | : do | 2,238 | 2,269 | 1 | 1,737 | -22 |
| Grain sorghums (grain) | : do | 6 | 6 | 0 | 4 | -33 |
| Wheat | : do | 33 | 31 | - 6 | 31 | - 6 |
| Oats for grain | : do | 143 | 290 | 103 | 892 | 522 |
| Rice | : do | 153 | 183 | 20 | 183 | 20 |
| Flaxseed | : do | — | — | — | — | — |
| Other small grains | : do | 13 | 13 | 0 | 13 | 0 |
| Soybeans (for beans) | : do | 51 | 143 | 180 | 430 | 743 |
| All hay | : do | 1,351 | 1,386 | 3 | 1,694 | 25 |
| Peanuts | : do | 20 | 20 | 0 | 28 | 40 |
| Tomatoes | : do | 11 | 16 | 45 | 15 | 36 |
| Other comml. vegetables | : do | 16 | 20 | 25 | 21 | 31 |
| Sugar cane (sugar) | : do | — | — | — | — | — |
| Other crops | : do | 654 | 650 | - 1 | 829 | 27 |
| Idle cropland | : do | 902 | 798 | -12 | — | -100 |
| Horses and mules | : head | 418 | 410 | - 2 | 371 | - 11 |
| All cattle | : do | 1,174 | 1,240 | 6 | 1,541 | 31 |
| Cows kept for milk | : do | 471 | 495 | 5 | 672 | 43 |
| All swine | : do | 1,374 | 1,495 | 9 | 1,119 | - 19 |
| All sheep | : do | 75 | 90 | 20 | 167 | 123 |
| All chickens | : do | 8,822 | 9,386 | 6 | 10,015 | 14 |
| <u>Crop production:</u> | | | | | | |
| Cotton | : bales | 1,351 | 991 | -27 | 1,253 | - 7 |
| Corn, all purposes | : bu. | 33,761 | 38,424 | 14 | 30,300 | -10 |
| Grain sorghums (grain) | : do. | 85 | 85 | 0 | 46 | -85 |
| Wheat | : do | 353 | 332 | - 6 | 332 | - 6 |
| Oats for grain | : do | 4,211 | 10,279 | 144 | 26,479 | 529 |
| Rice | : do | 7,651 | 9,150 | 20 | 9,150 | 20 |
| Flaxseed | : do | — | — | — | — | — |
| Other small grains | : do | 177 | 177 | 0 | 177 | 0 |
| Soybeans (for beans) | : do | 484 | 2,089 | 332 | 6,394 | 1,221 |
| All hay | : tons | 1,519 | 1,599 | 5 | 1,938 | 28 |
| Peanuts | : lbs. | 9,193 | 9,193 | 0 | 12,806 | 39 |
| Sugar cane (sugar) | : tons | — | — | — | — | — |
| <u>Livestock production:</u> | | | | | | |
| Beef & veal, L.W. | : lbs. | 198,387 | 205,763 | 4 | 259,527 | 31 |
| Pork, L.W. | : do | 296,344 | 323,878 | 9 | 240,944 | -19 |
| Lamb & mutton, L.W. | : do | 2,175 | 2,361 | 9 | 6,079 | 179 |
| Milk | : gal. | 155,458 | 170,894 | 10 | 242,699 | 56 |
| Wool shorn | : lbs. | 292 | 318 | 9 | 581 | 99 |
| Chicken eggs | : doz. | 49,667 | 54,978 | 11 | 62,466 | 26 |
| Chickens raised | : head | 20,580 | 22,017 | 7 | 26,019 | 26 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Table 21. - Land use, cropland and livestock organization and production, present and estimated, Louisiana

| Item | Unit | 1939 | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ |
|------------------------------|----------|---------|------------------|---------------------------|------------------------------------|
| | | actual | | | Total Change |
| | | 1,000 | 1,000 | Percent | 1,000 Percent |
| Total land area | : acres | 28,913 | 28,913 | — | 28,913 — |
| Number of farms | : number | 150.0 | 146.3 | - 2 | 143.2 - 5 |
| All land in farms | : acres | 9,996 | 10,228 | 2 | 10,682 7 |
| Cropland | : do | 4,598 | 4,710 | 2 | 5,227 14 |
| Pasture (excl. woodland) | : do | 1,782 | 1,922 | 8 | 2,780 56 |
| Woodland (total) | : do | 2,949 | 2,944 | - 1 | 2,275 -23 |
| Other land in farms | : do | 669 | 672 | 0 | 400 -40 |
| Cotton | : do | 1,088 | 980 | -10 | 980 -10 |
| Corn, all purposes | : do | 1,631 | 1,636 | 0 | 1,380 -15 |
| Grain sorghums (grain) | : do | 1 | 1 | 0 | 1 0 |
| Wheat | : do | — | — | 0 | — — |
| Oats for grain | : do | 43 | 136 | 216 | 313 628 |
| Rice | : do | 404 | 424 | 5 | 480 19 |
| Flaxseed | : do | — | — | — | — — |
| Other small grains | : do | — | — | — | — — |
| Soybeans (for beans) | : do | 27 | 52 | 93 | 290 974 |
| All hay | : do | 308 | 325 | 6 | 699 127 |
| Peanuts | : do | 13 | 13 | 0 | 14 8 |
| Tomatoes | : do | 3 | 3 | 0 | 4 33 |
| Other comml. vegetables | : do | 36 | 37 | 3 | 60 67 |
| Sugar cane (sugar) | : do | 227 | 256 | 13 | 294 30 |
| Other crops | : do | 332 | 413 | 24 | 712 115 |
| Idle cropland | : do | 483 | 434 | 0 | — -100 |
| Horses and mules | : head | 333 | 330 | - 1 | 317 - 5 |
| All cattle | : do | 1,131 | 1,178 | 4 | 1,337 18 |
| Cows kept for milk | : do | 320 | 329 | 3 | 425 33 |
| All swine | : do | 964 | 1,003 | 4 | 1,044 8 |
| All sheep | : do | 282 | 293 | 4 | 320 13 |
| All chickens | : do | 5,351 | 5,830 | 9 | 6,148 15 |
| <u>Crop production:</u> | | | | | |
| Cotton | : bales | 718 | 616 | -14 | 768 3 |
| Corn, all purposes | : bu. | 22,444 | 26,565 | 18 | 26,903 20 |
| Grain sorghums (grain) | : do | 18 | 18 | 0 | 18 0 |
| Wheat | : do | — | — | — | — — |
| Oats for grain | : do | 1,455 | 4,491 | 209 | 12,780 778 |
| Rice | : do | 17,785 | 18,714 | 5 | 19,506 10 |
| Flaxseed | : do | — | — | — | — — |
| Other small grains | : do | — | — | — | — — |
| Soybeans (for beans) | : do | 243 | 699 | 138 | 4,932 1,930 |
| All hay | : tons | 401 | 414 | 3 | 771 92 |
| Peanuts | : lbs. | 6,110 | 6,110 | 0 | 7,687 25 |
| Sugar cane (sugar) | : tons | 4,644 | 5,203 | 12 | 6,089 31 |
| <u>Livestock production:</u> | | | | | |
| Beef & veal, L.W. | : lbs. | 162,460 | 169,184 | 4 | 190,856 17 |
| Pork, L. W. | : do | 199,090 | 205,418 | 3 | 211,943 6 |
| Lamb & mutton, L.W. | : do | 5,285 | 5,476 | 4 | 6,025 14 |
| Milk | : gal. | 72,907 | 75,778 | 4 | 107,122 47 |
| Wool shorn | : lbs. | 776 | 804 | 4 | 886 14 |
| Chicken eggs | : doz. | 25,917 | 28,662 | 11 | 30,672 18 |
| Chickens raised | : head | 7,705 | 8,402 | 9 | 8,733 13 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Table 22. - Land use, cropland and livestock organization and production, present and estimated, Mississippi

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Long-time desirable (tentative) 1/ | |
|--------------------------|----------|----------------|---------------------|---------------------------------|---------------------------------------|---------|
| | | | | | Total | Change |
| | | | | | 1,000 | Percent |
| Total land area | : acres | 30,349 | 30,349 | - | 30,349 | - |
| Number of farms | : number | 291.1 | 280.8 | - 4 | 213.8 | -27 |
| All land in farms | : acres | 19,156 | 19,634 | 2 | 20,118 | 7 |
| Cropland | : do | 8,000 | 7,994 | - 1 | 7,825 | - 1 |
| Pasture (excl. woodland) | : do | 3,921 | 4,187 | 7 | 5,924 | 51 |
| Woodland (total) | : do | 6,060 | 6,356 | 5 | 5,837 | - 4 |
| Other land in farms | : do | 1,175 | 1,097 | - 7 | 832 | -29 |
| Cotton | : do | 2,150 | 2,205 | -10 | 2,186 | -11 |
| Corn, all purposes | : do | 2,957 | 3,033 | 3 | 2,089 | -29 |
| Grain sorghums (grain) | : do | - | - | - | - | - |
| Wheat | : do | 1 | 1 | 0 | 1 | 0 |
| Oats for grain | : do | 101 | 253 | 150 | 292 | 189 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 2 | 2 | 0 | 2 | 0 |
| Soybeans (for beans) | : do | 72 | 131 | 92 | 256 | 256 |
| All hay | : do | 857 | 956 | 12 | 1,534 | 79 |
| Peanuts | : do | 30 | 15 | 50 | 75 | 150 |
| Tomatoes | : do | 9 | 11 | 22 | 14 | 56 |
| Other comml. vegetables | : do | 33 | 37 | 12 | 61 | 85 |
| Sugar cane (sugar) | : do | - | - | - | - | - |
| Other crops | : do | 858 | 831 | - 3 | 1,315 | 53 |
| Idle cropland | : do | 630 | 489 | -22 | - | -100 |
| Horses and mules | : head | 520 | 510 | 4 | 490 | - 6 |
| All cattle | : do | 1,273 | 1,365 | 7 | 2,270 | 78 |
| Cows kept for milk | : do | 566 | 597 | 5 | 927 | 64 |
| All swine | : do | 1,213 | 1,395 | 15 | 1,159 | - 4 |
| All sheep | : do | 72 | 85 | 18 | 121 | 68 |
| All chickens | : do | 7,467 | 8,173 | 9 | 9,257 | 24 |
| Crop production: | | | | | | |
| Cotton | : bales | 1,533 | 1,527 | 1 | 1,614 | 5 |
| Corn, all purposes | : bu. | 36,035 | 45,507 | 26 | 41,375 | 15 |
| Grain sorghums (grain) | : do | - | - | - | - | - |
| Wheat | : do | 39 | 39 | 0 | 39 | 0 |
| Oats for grain | : do | 4,185 | 12,222 | 192 | 15,610 | 273 |
| Rice | : do | - | - | - | - | - |
| Flaxseed | : do | - | - | - | - | - |
| Other small grains | : do | 48 | 48 | 0 | 48 | 0 |
| Soybeans (for beans) | : do | 648 | 1,768 | 173 | 4,736 | 631 |
| All hay | : tons | 1,042 | 1,176 | 13 | 2,206 | 112 |
| Peanuts | : lbs. | 13,319 | 25,877 | 94 | 55,700 | 318 |
| Sugar cane (sugar) | : tons | - | - | - | - | - |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. | 191,670 | 205,172 | 7 | 341,065 | 78 |
| Pork, L.W. | : do | 208,125 | 239,082 | 15 | 196,593 | - 6 |
| Lamb & mutton, L.W. | : do | 1,270 | 1,497 | 18 | 2,133 | 68 |
| Milk | : gal. | 159,651 | 191,439 | 20 | 337,603 | 111 |
| Wool shorn | : lbs. | 195 | 230 | 18 | 328 | 68 |
| Chicken eggs | : doz. | 37,416 | 47,187 | 26 | 68,173 | 82 |
| Chickens raised | : head | 11,662 | 12,784 | 10 | 13,751 | 18 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Table 23. - Land use, cropland and livestock organization and production, present and estimated, Oklahoma

| Item | Unit | 1939 | Expected: 1943-45 | Expected: change from 1939 | Long-time desirable: Total | Long-time desirable: Change |
|------------------------------|----------|---------|-------------------|----------------------------|----------------------------|-----------------------------|
| | | actual | | | | |
| | | 1,000 | 1,000 | Percent | 1,000 | Percent |
| Total land area | : acres | 44,341 | 44,341 | — | 44,341 | — |
| Number of farms | : number | 179.7 | 167.0 | - 7 | 147.7 | -18 |
| All land in farms | : acres | 34,803 | 34,803 | 0 | 34,803 | 0 |
| Cropland | : do | 15,831 | 15,604 | - 1 | 14,195 | -10 |
| Pasture (excl. woodland) | : do | 14,392 | 14,619 | 2 | 16,158 | 12 |
| Woodland (total) | : do | 3,065 | 3,065 | 0 | 2,935 | - 4 |
| Other land in farms | : do | 1,515 | 1,515 | 0 | 1,515 | 0 |
| Cotton | : do | 1,671 | 1,503 | -10 | 1,400 | -16 |
| Corn, all purposes | : do | 1,788 | 1,711 | - 4 | 1,219 | -32 |
| Grain sorghums (grain) | : do | 630 | 808 | 28 | 829 | 32 |
| Wheat | : do | 4,159 | 3,485 | -16 | 3,783 | - 9 |
| Oats for grain | : do | 1,174 | 1,368 | 17 | 1,402 | 19 |
| Rice | : do | — | — | — | — | — |
| Flaxseed | : do | — | — | — | — | — |
| Other small grains | : do | 731 | 834 | 14 | 852 | 17 |
| Soybeans (for beans) | : do | 4 | 4 | 0 | 4 | 0 |
| All hay | : do | 1,878 | 2,002 | 7 | 2,151 | 15 |
| Peanuts | : do | 39 | 44 | 12 | 38 | - 3 |
| Tomatoes | : do | — | — | — | — | — |
| Other comml. vegetables | : do | 17 | 18 | 6 | 18 | 6 |
| Sugar cane (sugar) | : do | — | — | — | — | — |
| Other crops | : do | 1,928 | 2,101 | 9 | 2,499 | 30 |
| Idle cropland | : do | 1,812 | 1,726 | - 5 | — | -100 |
| Horses and mules | : head | 520 | 466 | -10 | 390 | -25 |
| All cattle | : do | 2,247 | 2,365 | 5 | 2,609 | 16 |
| Cows kept for milk | : do | 727 | 768 | 6 | 803 | 10 |
| All swine | : do | 1,269 | 1,324 | 4 | 1,141 | -10 |
| All sheep | : do | 313 | 366 | 17 | 450 | 44 |
| All chickens | : do | 11,867 | 12,779 | 8 | 11,885 | 0 |
| Crop production: | | | | | | |
| Cotton | : bales | 521 | 420 | -19 | 390 | -25 |
| Corn, all purposes | : bu. | 25,341 | 24,582 | - 3 | 17,714 | -30 |
| Grain sorghums (grain) | : do | 5,431 | 7,152 | 32 | 7,595 | 40 |
| Wheat | : do | 58,493 | 47,517 | -19 | 53,776 | - 8 |
| Oats for grain | : do | 21,079 | 26,060 | 24 | 26,861 | 27 |
| Rice | : do | — | — | — | — | — |
| Flaxseed | : do | — | — | — | — | — |
| Other small grains | : do | 10,549 | 12,218 | 16 | 12,390 | 17 |
| Soybeans (for beans) | : do | 32 | 32 | 0 | 32 | 0 |
| All hay | : tons | 1,844 | 1,973 | 7 | 2,131 | 16 |
| Peanuts | : lbs. | 15,602 | 18,212 | 17 | 15,399 | - 1 |
| Sugar cane (sugar) | : tons | — | — | — | — | — |
| Livestock production: | | | | | | |
| Beef & veal, L.W. | : lbs. | 550,000 | 592,503 | 8 | 627,062 | 14 |
| Pork, L.W. | : do | 332,375 | 349,998 | 5 | 299,964 | -10 |
| Lamb & mutton, L.W. | : do | 13,590 | 16,183 | 19 | 19,343 | 42 |
| Milk | : gal. | 289,186 | 311,528 | 8 | 339,109 | 17 |
| Wool shorn | : lbs. | 2,107 | 2,477 | 18 | 2,979 | 41 |
| Chicken eggs | : doz. | 81,750 | 92,536 | 13 | 89,498 | 9 |
| Chickens raised | : head | 17,569 | 19,030 | 6 | 17,944 | 2 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

Table 24. - Land use, cropland and livestock organization and production, present and estimated, Texas

| Item | Unit | 1939 actual | Expected 1943-45 | Expected change from 1939 | Expected change from 1939 | Long-time desirable (tentative) 1/ Total | Change |
|------------------------------|----------|----------------|---------------------|---------------------------------|---------------------------------|------------------------------------------------|---------|
| | | 1,000 | 1,000 | Percent | Percent | 1,000 | Percent |
| Total land area | : acres | 168,732 | 168,732 | - | - | 168,732 | - |
| Number of farms | : number | 418 | 400 | - 4 | - 4 | 323 | -23 |
| All land in farms | : acres | 137,683 | 137,683 | 0 | 0 | 137,683 | 0 |
| Cropland | : do | 33,018 | 31,600 | - 4 | - 4 | 28,842 | -13 |
| Pasture (excl. woodland) | : do | 88,504 | 89,922 | 2 | 2 | 96,185 | 9 |
| Woodland (total) | : do | 14,074 | 14,074 | 0 | 0 | 10,569 | -25 |
| Other land in farms | : do | 2,087 | 2,087 | 0 | 0 | 2,087 | 0 |
| Cotton | : do | 8,106 | 7,309 | -10 | -10 | 7,311 | -10 |
| Corn, all purposes | : do | 4,700 | 4,953 | 5 | 5 | 5,275 | 12 |
| Grain sorghums (grain) | : do | 2,202 | 2,369 | 8 | 8 | 1,682 | -24 |
| Wheat | : do | 2,744 | 2,707 | - 1 | - 1 | 2,799 | 2 |
| Oats for grain | : do | 1,271 | 1,375 | 8 | 8 | 1,418 | 12 |
| Rice | : do | 186 | 229 | 23 | 23 | 229 | 23 |
| Flaxseed | : do | 7 | 100 | 1,329 | 1,329 | 200 | 2,757 |
| Other small grains | : do | 325 | 325 | 0 | 0 | 333 | 2 |
| Soybeans (for beans) | : do | 5 | 5 | 0 | 0 | 5 | 0 |
| All hay | : do | 4,114 | 4,547 | 11 | 11 | 5,338 | 30 |
| Peanuts | : do | 312 | 374 | 20 | 20 | 332 | 6 |
| Tomatoes | : do | 53 | 63 | 19 | 19 | 63 | 19 |
| Other comml. vegetables | : do | 204 | 258 | 26 | 26 | 261 | 28 |
| Sugar cane (sugar) | : do | — | — | — | — | — | — |
| Other crops | : do | 3,902 | 3,321 | -15 | -15 | 2,415 | -38 |
| Idle cropland | : do | 4,887 | 3,665 | -25 | -25 | 1,181 | -76 |
| Horses and mules | : head | 1,366 | 1,054 | -23 | -23 | 859 | -37 |
| All cattle | : do | 6,677 | 6,963 | 4 | 4 | 6,998 | 5 |
| Cows kept for milk | : do | 1,443 | 1,536 | 6 | 6 | 1,676 | 16 |
| All swine | : do | 2,293 | 2,433 | 6 | 6 | 2,577 | 13 |
| All sheep | : do | 10,069 | 10,384 | 3 | 3 | 9,632 | - 4 |
| All chickens | : do | 25,871 | 26,886 | 4 | 4 | 26,083 | 1 |
| <u>Crop production:</u> | | | | | | | |
| Cotton | : bales | 2,725 | 2,459 | -10 | -10 | 2,625 | - 4 |
| Corn, all purposes | : bu. | 69,649 | 79,812 | 15 | 15 | 83,886 | 20 |
| Grain sorghums (grain) | : do | 25,232 | 43,730 | 73 | 73 | 29,351 | 16 |
| Wheat | : do | 28,096 | 27,729 | - 1 | - 1 | 27,361 | - 3 |
| Oats for grain | : do | 32,307 | 37,570 | 16 | 16 | 38,890 | 20 |
| Rice | : do | 10,397 | 12,775 | 23 | 23 | 12,775 | 23 |
| Flaxseed | : do | 76 | 1,180 | 1,453 | 1,453 | 2,380 | 3,032 |
| Other small grains | : do | 4,272 | 4,277 | 0 | 0 | 4,338 | 2 |
| Soybeans (for beans) | : do | 28 | 28 | 0 | 0 | 28 | 0 |
| All hay | : tons | 4,666 | 5,448 | 17 | 17 | 6,235 | 34 |
| Peanuts | : lbs. | 129,480 | 156,012 | 20 | 20 | 139,930 | 8 |
| Sugar cane (sugar) | : tons | — | — | — | — | — | — |
| <u>Livestock production:</u> | | | | | | | |
| Beef & veal, L. W. | : lbs. | 1,429,730 | 1,542,545 | 8 | 8 | 1,525,316 | 7 |
| Pork, L. W. | : do | 526,828 | 559,047 | 6 | 6 | 591,405 | 12 |
| Lamb & mutton, L.W. | : do | 211,620 | 217,955 | 3 | 3 | 215,257 | 2 |
| Milk | : gal. | 431,512 | 540,874 | 10 | 10 | 588,326 | 18 |
| Wool shorn | : lbs. | 77,290 | 79,583 | 3 | 3 | 78,610 | 2 |
| Chicken eggs | : doz. | 174,667 | 183,418 | 5 | 5 | 177,943 | 2 |
| Chickens raised | : head | 28,812 | 30,378 | 5 | 5 | 29,588 | 3 |

1/ Assumes realization of all desirable changes, no one change being independent of the others.

NEEDED ADJUSTMENTS AND WAYS OF FACILITATING THEM

With but few exceptions, production adjustments that farmers in the South Central States are likely to make during the next few years are in the same directions as those which appear desirable from a longer time standpoint. Many obstacles prevent a complete shift to desirable adjustments. These include small farms, lack of capital, present tenure arrangements, production and marketing difficulties for many commercial enterprises other than cotton, inadequate equipment, low yields of feed grain and pasture, erosion, and inexperience with needed feed and livestock enterprises.

The immediate production adjustment objectives of farms in the South Central States should be two-fold: (1) To increase the production of those food items needed at home and abroad, and (2) to find uses for a considerable part of the land and labor formerly used in the production of cotton and wheat for the export market.- a market which will probably be almost non-existent during the war. Fortunately, accomplishing the first objective will aid materially in meeting the second objective, and it is expected that acreages diverted from cotton and wheat will be used to increase production of food, including livestock and livestock products, for home use and to provide those commodities for which an additional effective demand has been created by defense activities, with their resultant increased purchasing power, and our "feed England program".

Immediate Adjustments (Fall and Winter 1941)

Some steps to stimulate immediate adjustments can and should be taken this fall.

More Dairy Products

Agriculture's first test of ability to expand to meet new demands for dairy products will probably come this fall as pastures start drying up. Mild Southern winters provide an opportunity for a quick start in providing winter pastures. "Bottlenecks" which might impede such efforts are likely to appear. Seed supplies of vetch, crimson clover, and other winter-growing legumes are relatively limited. In the eastern portion of the region an extension of the AAA conservation assistance program to include small grains and other winter pasture crops, as well as winter legumes, appears desirable.

Better feeding practices would make the available feed supplies go much farther. The feeding of minerals to cattle in the eastern part of the belt would be relatively inexpensive and would materially increase the calf crop and milk production. The county agents, Extension Service, Farm Security Administration, and other local leaders could make a real contribution by helping farmers develop better feeding methods and making sure that adequate supplies of minerals are available.

Milk processing plant capacity is not entirely adequate in many sections, but considerable capacity elsewhere is unused, while in nearby areas saleable milk remains unsold. A rough idea of availability of processing plants in Mississippi, Arkansas, Louisiana, and Oklahoma is given in table 25. Perhaps some scheme should be developed whereby small producers of milk could send it to small cooling plants and concentration points, to be later sent to processing plants where the capacity is not fully used. More sanitary handling of market milk and cream is needed on many Southern farms.

Growing Dairy Replacements

A shortage of cows appears probable if large increases in dairy production are immediately attained. It will require about 3 years to make a substantial increase in cattle numbers. Many commercial dairymen near cities and defense centers have canvassed outlying areas during the past few months for cows and bred heifers. Meanwhile, they have been destroying or selling for veal young heifer calves of fair to good dairy breeding and have been selling dry cows of good grade to butchers in order to make room for producing cows. This will probably continue until prices for cows reach a very high level, unless some action is taken to move the better quality heifers and dry cows back into outlying areas where feeds are cheaper. Over the long run, prices of veal and beef versus prices of cows and young stock to be taken to outlying farms will take care of the situation. To prevent destruction of cows and young heifers at once, however, will require concerted effort and perhaps some type of Government-sponsored program. It might be feasible to establish a standard purchase price for cows and heifers and provide a system for distributing them to farmers with available feed and pasture at the purchase price plus a low delivery cost. This might be a desirable as well as a profitable service which the Farm Security Administration could render their clients.

An Organized "Huckster" Service

Around defense centers and military camps there is likely to be a shortage of green leafy vegetables, many of which are grown nearby (turnips, turnip greens, cabbage, etc.) in the winter, but part of the crop is allowed to go to waste because the individual farmer has too small a quantity to market economically. This will also apply to eggs and poultry to some extent. An organized pickup service consisting of several routes into the country, working from central points where produce could be concentrated, might be worth considering in many places, even though it might require some subsidy from a governmental agency. This service would have several desirable points: (1) It might facilitate the use of products which would otherwise be wasted; (2) it would concentrate the supplies in a volume that could be handled by the camp purchasing agent; and (3) in areas adapted to production of truck crops, it would stimulate production.

Table 25.-- Milk processing plants in the South Central Area, 1940 ^{1/}

| Subarea and State | Type of plant | | | |
|------------------------------|---------------|-----------|--------|--------------|
| | Butter | Ice Cream | Cheese | Condenseries |
| | Number | Number | Number | Number |
| 1. Hill Area | | | | |
| Mississippi | 17 | 33 | 16 | 5 |
| Louisiana | 3 | 5 | -- | -- |
| Arkansas | 2 | 4 | 2 | -- |
| Oklahoma | 3 | 4 | -- | -- |
| Total | 25 | 46 | 18 | 5 |
| 2. Delta | | | | |
| Mississippi | -- | 6 | -- | -- |
| Arkansas | 1 | 4 | 1 | -- |
| Louisiana | 7 | 14 | 1 | -- |
| Total | 8 | 24 | 2 | -- |
| 3. Gulf Coast Special Crops: | | | | |
| Mississippi | 1 | 9 | -- | -- |
| Louisiana | 6 | 13 | 1 | 2 |
| Total | 7 | 22 | 1 | 2 |
| 4. Arkansas River Valley &: | | | | |
| Uplands | | | | |
| Arkansas | 8 | 11 | 6 | -- |
| Oklahoma | 12 | 7 | 2 | -- |
| Total | 20 | 18 | 8 | -- |
| 5. Ozark-Ouachita Mountains: | | | | |
| Arkansas | 4 | 2 | 5 | -- |
| Oklahoma | 2 | 2 | 1 | -- |
| Total | 6 | 4 | 6 | -- |
| 8. Cross Timbers | | | | |
| Oklahoma | 22 | 21 | 5 | -- |
| Total | 22 | 21 | 5 | -- |
| 9. Central and Northeast | | | | |
| Prairies | | | | |
| Oklahoma | 26 | 18 | 4 | -- |
| Total | 26 | 18 | 4 | -- |
| 10. Low Rolling Plains | | | | |
| Oklahoma | 10 | 8 | 2 | -- |
| Total | 10 | 8 | 2 | -- |
| 12. High Plains Wheat | | | | |
| Oklahoma | 7 | -- | 2 | -- |
| Total | 7 | -- | 2 | -- |

^{1/} Includes only Mississippi, Arkansas, Louisiana, and Oklahoma. Information for Texas incomplete.

The Farm Food Supply

An opportunity for farm families to contribute effectively to defense needs will be in going the limit in producing fall and winter gardens and in carefully conserving vegetables, food grains, and meats so as to reduce their own expenses and make available for other uses the foods they would ordinarily buy.

Fall Labor Shortage

As the fall harvest season approaches, the fact that the excess laborers in many communities have almost disappeared will probably become increasingly apparent. Many migrant workers will be working "steady". The farm placement services can be very helpful. All means should be used to acquaint unemployed or under-employed farmers with employment services. In some areas relief agencies might assist by curtailing public works programs during the harvesting season.

Care of Farm Machinery

Farm machinery now ranks high on the priority list of the Office of Production Management. As the need for war materials becomes more acute, farm machinery may have a lower priority. Therefore, special attention should be given the care of machinery.

Informational Service

Through the USDA Defense Boards farmers should be informed of defense needs and brought to recognize the part that agriculture should play during the emergency period.

1943-45 and Longer Term Adjustments

The needed farm adjustments will mean material changes in prevailing farm production organizations and methods. To overcome natural inertia, uncertainties regarding income while making changes, and lack of experience in new enterprises, will call for strong leadership if farm adjustments are to be made quickly and with minimum danger of losses and maladjustments after the emergency period. Action agencies, in cooperation with county planning committees and research and extension groups, are in a position to supply that leadership -- a position which should immediately be exploited.

Positive Assistance From Federal Agencies

Farm operators are often deterred from shifting to new enterprises because of lack of skills, equipment, and confidence, and many questions need to be answered as farmers adopt new methods of farming. The changes which have been outlined will involve relatively new undertakings for farmers in most parts of the South and all possible means of facilitating these changes should be explored.

In some areas, unified farm plans are being used experimentally as a means of integrating Federal activities that may aid changes in farming systems. Under this plan, when agreement is reached as to the desirable adjustments, financial and technical assistance will be provided to help the farmer make the adjustments. If these experiments are successful, farm planning of this type should be extended.

Another means of providing positive assistance would be demonstration projects involving the underwriting of the experimental phases of recommended changes in farming systems, thus providing answers to some of the many problems that will inevitably arise during the adjustment processes. These projects could be carried on as a part of the F.S.A. program on clients' farms, or the demonstrations could take place on representative farms on which the operators would be willing to cooperate. Widespread interest and publicity would be insured by making the project an integral part of the county planning work.

Increased Use of Roughages

In the eastern part of the region the production of an adequate roughage supply presents a major obstacle to increasing livestock production. For example, in the Eastern Hill section of Mississippi and Louisiana, the consumption of roughage per cow per year averages less than one-fourth ton. Much of the hay grown is not harvested. The usual cotton farmer has neither the haying equipment nor the storage space for increased hay production. The use of trench or box silos will be beneficial in many places and particularly in the more humid sections where it is difficult to cure hay. Fences, barns, and a place to store an adequate feed supply will have to be built. These improvements call for considerable new investment and special credit facilities are likely to be needed. Consideration might well be given to providing loans at low interest rates for the purchase of materials for fences, silos, barns, and storage spaces. Such loans should be based on actual needs of the farm and in most cases it will be advisable for farmers to repay the loans as rapidly as possible during the period of high prices.

Increases in Truck Crop Production Near Defense Centers

In the vicinity of practically every industrial area and army concentration located within the South Central States are localities that are

physically well-suited for producing a wide variety of truck crops. Immediate appraisal of the present and prospective demand for such crops and the possibilities of supplying this demand locally may well result in furnishing badly needed new farm enterprises and create the basis for developing other markets after the defense program slackens. It is not probable that this type of development will occur if left entirely to individual initiative because of marketing difficulties that confront individual small producers. The establishment of cooperative services for concentrating these products and marketing them is essential to bringing forth local supplies in satisfactory quantities and developing present as well as future markets.

Oil-Producing Crops

In view of an indicated 14 percent smaller cottonseed production in 1941 than in 1940 ^{2/}, the prospect of a further reduction in cotton acreage, the probability of a reduction in imports of all vegetable oils due to a lack of shipping space, and the increase in consumption of fats and oils, it is timely to evaluate potential domestic vegetable-oil producing areas and the methods whereby domestic output may be expanded. In the South Central States, soybeans, flaxseed and castor beans warrant some consideration -- particularly soybeans, since all the Mississippi Delta area, much of the Rio Grande Valley, and several small upland areas are physically adapted to the production of soybeans.

As the use of combines has increased rapidly for harvesting oats and as there is excess capacity in cotton oil mills, an increase in soybeans for oil would be a profitable complementary enterprise in many localities in the Delta. Yields of from 20 to 30 bushels are not uncommon. With such yields and with present prices, soybeans for grain compare favorably with oats as an alternative enterprise, and are more profitable than corn or hay.

The reduction in cotton production will contribute substantially to the scarcity of vegetable oils. For example, a 15 percent reduction in the cottonseed output is equivalent to the oil output from one million acres of soybeans. With a yield of 20 bushels per acre, it would take more than a million acres of soybeans to replace the reduction in cottonseed oil. Since yields in the Mississippi Delta compare favorably with those in the Corn Belt, and since Corn Belt land can now be profitably used in increasing corn and hog production, it would seem highly desirable to give consideration to the Delta in any expansion program for soybeans. Since soybeans for grain are no longer classified as a soil depleting crop an expansion in soybean acreage should be facilitated. The change in classification was made to avoid depletion of vegetable oil stocks and to assure ample supplies for defense as well as for normal requirements. If this policy is continued and if present prices are maintained, a big increase in soybeans for grain in this region will be forthcoming. The Extension Service, the Farm Security Administration, Farm Credit Administration, and other Governmental agencies could give valuable technical and financial assistance to such a program.

^{2/} Bureau of Agricultural Economics. August 1941. The Fats and Oils Situation.

The production of flax has been moderately expanded recently in the Gulf Coast Area of Texas. Flax is also being grown on a somewhat experimental basis in the coastal part of Louisiana, and in the Mississippi River Delta. To get farmers in the South Central States to grow flax in substantial quantity adequate publicity regarding the need for oil-bearing plants and guidance with regard to cultural practices during the introductory stages would probably be necessary. It would also be necessary to establish processing plants fairly close to the potential flax-producing areas.

Castor beans have been produced experimentally in various areas of the South Central States, particularly in the Gulf Coast Area of Texas and to a more limited extent in Louisiana. In general, attempts to produce the beans on a commercial scale have proved impractical because of poor market conditions and high harvesting costs. However, experimental work of the Texas Agricultural Experiment Station has demonstrated that the Gulf Coastal Area provide a satisfactory environment for the crop and it is believed that with proper encouragement castor beans would be produced in large quantities here. Because of the unsatisfactory price situation which castor bean producers have experienced in the past, it is probable that a carefully planned program involving price guarantees and acreage contracts would be necessary to induce the production of any substantial supply.

Shortage of Fertilizer

Importation of nitrogenous fertilizer materials will probably be drastically reduced because of the lack of shipping facilities. The increased use of nitrogen-bearing chemicals in the manufacture of ammunitions will also reduce the quantity of nitrogenous materials for use in fertilizers. It is, therefore, rather certain that shortages of fertilizer will develop before the next crop planting season. Fortunately, both winter and summer legumes can be grown in most places in the South where heavy applications of fertilizer are now used. For example, in the hill areas of Mississippi, 202 thousand tons of fertilizer, containing an average of about 160 pounds of nitrogen per ton, were used in 1940. In the same area in 1940, 1,182,000 acres of legumes, with a total fertilizer equivalent of approximately 118 thousand tons, were turned under (table 26).

Efforts should be made to increase the planting of winter legumes to the maximum limit of the available seed supplies. As the seed supplies are quite inadequate, lower average seeding rates appear to be desirable. Increases in the acreage of winter legumes for seed in 1941 to be used in later years are now being stimulated by governmental programs.

If rationing of fertilizer becomes necessary, allotments to counties and to individual farmers might be based upon the quantity of fertilizer used during past years. However, with this or some other allotment system, it might be advisable to reserve special allotments for farmers who are attempting to increase production of commodities needed for our national defense.

Table 26. -- Green manure crops turned under and commercial fertilizer used in selected subareas, by States, 1940

| Subarea and State 1/ | | | | | | | | | |
|----------------------------------------------------------------------------------------------------------|--------------|-----------------------|--------|-----------------------|---------|-----------------------|-------|----------------|-------------------|
| : Winter legumes | | : All green manure | | : Commercial | | : Total fertilizer | | | |
| : seeded 1940 | | : and cover crops | | : fertilizer | | : equivalent 2/ | | | |
| : :Proportion of: | | :Proportion of: | | : Per acre: | | : Per acre: | | | |
| : :Crop--:Cotton: | | :Crop--:Cotton: | | : Crop--: | | : Crop--: | | | |
| :Total: land : acres: | | :Total: land : acres: | | :Total: land :Cotton: | | :Total: land :Cotton | | | |
| :1,000: Per- : Per- :1,000: | | : Per- :1,000: | | : Per- :1,000: | | : Per- :1,000: | | | |
| :acres: cent : | | : cent :acres: | | : cent :tons : | | :Pounds:Pounds:tons : | | Pounds:Pounds: | |
| 1. Hill Area | 574 : 10.2 : | 33.7 : 1.132 : | 21.0 : | 79.6 : | 202 : | 71 : | 272 : | 320 : | 114 : 451 |
| Mississippi | 80 : 6.4 : | 23.9 : | 250 : | 20.1 : | 74.6 : | 47 : | 75 : | 279 : | 72 : 116 : 430 |
| Louisiana | 91 : 6.2 : | 21.2 : | 203 : | 13.9 : | 47.2 : | 31 : | 42 : | 144 : | 51 : 70 : 237 |
| Arkansas | 28 : .6 : | 2.1 : | 897 : | 20.2 : | 68.6 : | 67 : | 30 : | 103 : | 157 : 71 : 240 |
| Texas | n.a.: | n.a.: | 9 : | 1.8 : | 10.0 : | 1 : | 3 : | 19 : | 2 : 7 : 42 |
| Oklahoma | 773 : 6.0 : | 21.7 : 2,541 : | 19.1 : | 69.6 : | 343 : | 52 : | 191 : | 602 : | 30 : 530 |
| Total | 246 : 12.0 : | 26.4 : | 549 : | 26.9 : | 59.0 : | 83 : | 81 : | 178 : | 138 : 135 : 296 |
| Mississippi | 233 : 11.6 : | 34.7 : | 703 : | 35.1 : | 104.8 : | 40 : | 40 : | 119 : | 110 : 110 : 323 |
| Louisiana | 225 : 6.3 : | 18.4 : | 226 : | 6.4 : | 18.7 : | 45 : | 25 : | 74 : | 68 : 38 : 111 |
| Arkansas | 704 : 9.3 : | 24.9 : 1,480 : | 19.5 : | 52.4 : | 168 : | 44 : | 119 : | 316 : | 33 : 224 |
| Total | 24 : 7.5 : | 70.6 : | 110 : | 34.4 : | 323.5 : | 15 : | 94 : | 958 : | 26 : 152 : 1,529 |
| Mississippi | 94 : 7.0 : | 114.6 : | 348 : | 25.3 : | 424.4 : | 60 : | 89 : | 1,463 : | 95 : 141 : 2,317 |
| Louisiana | - : - : | - : | 538 : | 64.4 : | 258.7 : | 18 : | 43 : | 173 : | 72 : 172 : 692 |
| Texas | 118 : 4.7 : | 36.4 : | 996 : | 39.7 : | 307.4 : | 93 : | 74 : | 574 : | 193 : 154 : 1,191 |
| Total | 16 : .9 : | 4.3 : | 47 : | 2.6 : | 12.5 : | 24 : | 27 : | 128 : | 29 : 33 : 155 |
| Ark. Valley & Uplands | n.a.: | n.a.: | 46 : | 2.6 : | 21.2 : | 1 : | 1 : | 6 : | 5 : 6 : 40 |
| Arkansas | 16 : .9 : | 4.3 : | 93 : | 2.6 : | 13.2 : | 25 : | 14 : | 71 : | 34 : 19 : 96 |
| Oklahoma | 7 : .8 : | 21.9 : | 27 : | 3.2 : | 84.4 : | 7 : | 17 : | 438 : | 10 : 24 : 625 |
| Arkansas | n.a.: | n.a.: | 16 : | 2.5 : | 28.4 : | 1 : | 3 : | 35 : | 3 : 9 : 92 |
| Oklahoma | 7 : .8 : | 21.9 : | 43 : | 2.9 : | 48.3 : | 8 : | 11 : | 180 : | 13 : 17 : 277 |
| Total | 11 : .1 : | .4 : | 972 : | 12.4 : | 37.5 : | 7 : | 2 : | 5 : | 104 : 27 : 80 |
| Black Wax Prairie | 15 : 1.0 : | 42.6 : | 224 : | 14.7 : | 39.6 : | 3 : | 4 : | 10 : | 25 : 33 : 87 |
| Texas | 2 : .1 : | .5 : | 455 : | 15.6 : | 110.7 : | 4 : | 3 : | 21 : | 50 : 34 : 263 |
| Gulf Coast Cotton | n.a.: | n.a.: | 82 : | 4.0 : | 30.7 : | 1 : | 1 : | 8 : | 9 : 9 : 68 |
| Texas | 2 : .1 : | .5 : | 537 : | 10.9 : | 83.1 : | 5 : | 2 : | 15 : | 59 : 24 : 183 |
| Cross Timbers | | | | | | | | | |
| Texas | | | | | | | | | |
| Oklahoma | | | | | | | | | |
| Total | | | | | | | | | |
| 1/ Fertilizer use and green manure practices insignificant in areas not shown. | | | | | | | | | |
| 2/ Includes fertilizer plus estimated fertilizer equivalent (200 pounds per acre) of green manure crops. | | | | | | | | | |

Farm Woodlands

In addition to crop and livestock production, consideration must be given to the vast acreage of woodlands in the humid parts of the South Central States, and the manner in which it may be made to contribute more effectively to farm incomes. Only one-third of the land in Louisiana, for example, is in farms and 30 percent of the farm land is in woodlands.

Although generally small and poorly stocked at present, farm woodlands represent a possibility for increasing incomes. In the Gulf Coastal Plains of Louisiana it has been estimated that the management of a well-stocked woodland large enough to employ the farm family during the winter months would materially increase both cash and family incomes of their farms. It is estimated that a two-mule cotton farmer could handle, in addition to his enterprises, approximately 200 acres of woodland with a stand similar to that found on the best 10 percent of the farm woodlands. A woodland of this size and stand would increase the net cash income of a two-mule cotton farm by \$329 (see appendix table 33).

A program of enlarged and more productive farm woodlands would greatly improve the general economy of many localities by furnishing opportunities of employment other than in crop production. Although the Farm Credit Administration can now finance sound additions to farm areas, it is not likely that many loans will be made until forestry is more generally understood and practiced. Another possibility is the leasing or renting of private lands by corporate or similar owners to farmers who would manage and cut timber on a share-cropping basis. Public ownership of some forest land with some arrangements for its management on a part-time basis by farmers of the area would be another possibility.

While the adjustments in the South toward meeting defense needs are generally in the direction of the long-time desirable, a notable exception is found in the case of farm woodlands. Defense demands have already resulted in considerable over-cutting and more may be anticipated. Methods of effecting desirable cutting practices are particularly needed at this time.

Population Adjustments

Faced with the prospect of decreasing employment in cotton farming at a time when there is a shortage of labor in industry, it is clearly in the interest of sound national policy that the training of farm workers to fit them for other occupations be undertaken immediately. The large number of Southern farm people in young-age groups represents a valuable source of skilled labor for any national defense activity. Adequate preparation requires a knowledge of conditions in other areas and other lines of work, as well as vocational training, and informational and placement services are needed to inform farmers of employment opportunities.

The shift of agricultural labor to industrial occupation should be permanent. Because of the intense population pressure in many Southern agricultural areas, a shift of surplus labor to other occupations is not only desirable from the standpoint of increasing industrial output, but is a vital phase of desirable agricultural adjustments to meet changed conditions of demand for commodities southern farmers can and should produce. Alternatives to cotton generally require less labor and more land than does cotton. This means that if farm labor is to be efficiently employed, the number of people in agriculture must be permanently reduced. Hence, if occupational adjustments are made during this present period of emergency, safeguards should be established to prevent the return of surplus laborers to farm occupations. Perhaps a more practical way to proceed is to cushion the shock of maladjustments in national economy by assisting small factories to use surplus laborers in the manufacture of products farmers need, rather than to subsidize all of agriculture after permitting maladjustments between labor and land to permeate the entire economic structure of agriculture.

Potential Markets Should Be Developed

There is every assurance that during the present world emergency farmers of the South Central States can find a lucrative market for practically every commodity they can produce, except cotton and wheat. But many farmers will hesitate to enter new lines of production and to expand old lines, in the believing that the increasingly favorable demand is a temporary situation which will collapse with a settlement of the world conflict. This attitude would be quickly dispelled if the farmers could be brought to realize that a successful campaign by the democracies of the world will result in a greater, rather than a diminished, demand for their products.

Regardless of the outcome of the war, however, Southern farmers will have immediate access to a vast undeveloped market for all of the food products that they can produce. Many Southern people have inadequate diets, and if the farm and urban people of the South Central States were supplied with a diet that would meet minimum nutritional standards for healthful living, farmers in the region would enjoy a tremendous increase in demand for their surplus food production, a demand which could be permanent, as is revealed by tables 5 and 29.

For example, it is estimated that an increase of more than 1,200,000 milk cows would be needed for supplying the minimum quantity of milk necessary for an adequate diet for all the people in the region. But if the farm labor and land resources of the region were brought into proper adjustment, the present number of milk cows could be increased by only about a million animals, or 200,000 fewer cows. Furthermore, the same relationship holds for most other food products that are needed and that can be produced within the region. In short, if the machinery of our national economy can be made to function smoothly, so people can be fully and productively employed, Southern farmers have at hand an ample and permanent market for all they can produce.

Table 27. - Approximate increase in number of livestock and acreages needed to supply minimum adequate diets for urban population, thirteen Southern States, 1940 ^{1/}

| Item | Unit | Increase |
|-------------------------------------|------|----------|
| | | 1,000 |
| Livestock: | | |
| Dairy cows | Head | 1,757 |
| Other cattle | do | 343 |
| Hogs | do | 331 |
| Hens for eggs | do | 4,131 |
| Chickens for meat | do | 11,015 |
| Crops: | | |
| Direct food crops | Acre | 1,015 |
| Grain | do | 1,948 |
| Roughage | do | 1,815 |
| Total cropland | do | 4,778 |
| Pasture (present carrying capacity) | do | 10,542 |
| Total acreage | do | 15,320 |

^{1/} Population figures are for 1940. Per capita food estimates are from data by color and income groups obtained by the Bureau of Home Economics and the Bureau of Labor in 1935-36. Specifications of "Low Cost Good Diet" assumed to represent a minimum diet level.

Tenure

A modification of prevailing tenant leases will be a necessary prerequisite in shifting from intensive cash crops to systems of farming that include such enterprises, as livestock and farm forestry which require commitments for more than one year. Long-term leases safeguarding the interests both of landlord and tenant become more imperative than in the production of an annual crop such as cotton.

APPENDIX

Terminology and Methodology

Definition of terms used, the source of the data, and methods used in the preparation of this report, follow.

Definition of Terms and Source of Data

Total land area, number of farms, and all land in farms, as reported in the 1940 census under these headings, were used to measure the present land area and major uses of land. Cropland represents total cropland, including cropland harvested, failure and fallow, and cropland idle, 1940 census. Pasture exclusive of woodland pasture, 1939, is the census figure of plowable pasture plus an estimate of other pasture (excluding woodland pasture). The estimate used was based upon 1935 census data and judgment. Woodland acreage, 1929, is the 1940 census figure.

Crops.- Both 1939 acreage and production figures for cotton, grain sorghum for grain, wheat, oats for grain, rice, flaxseed, other small grains, and sugar cane for sugar are from the 1940 census, and were used as a basis for making other estimates. In estimating production for the "expected" and "desirable" situations, data at hand and judgment estimates of normal per-acre yields were used if the 1939 yields appeared out of line. For cotton, the per-acre yield used approximates the 5-year average (1935-39) yields as shown by analysis of yield data for sample counties in each type-of-farming area.

The 1940 census figures for corn for all purposes was used. The corn production figure, also from the 1940 census, represents bushels of grain harvested. The above statement relative to normal per acre crop yields applies also to corn and hay yields.

The all hay 1939 figures, both acreage and production, are the census figures for all hay, plus sorghum harvested for hay and silage.

The acreage and production, 1939 actual, for soybeans for beans, peanuts, tomatoes, and other commercial vegetables, are estimates of the Agricultural Marketing Service for the 1939 crop year. These State estimates were prorated to type-of-farming areas on the basis of 1935 census figures and judgment.

Livestock.- Livestock numbers, 1939 actual, are Agricultural Marketing Service estimates of livestock on hand January 1, 1939. The Agricultural Marketing Service State estimates of numbers were prorated to type-of-farming areas on the basis of 1939 census data. For example, the number of all cattle on farms in Louisiana in 1939, according to the 1940 census, was 1,051,901, and 1,131,000 according to the 1939 A.M.S. estimates. Therefore, the A.M.S. estimates were 107.52 percent of the census figures. The 107.52 percent factor was applied to census numbers in each type-of-farming area in Louisiana.

Production estimates, 1939 actual, for milk, wool, chickens raised and eggs, are Agricultural Marketing Service estimates of 1939 production. The same procedure was used in adjusting census production figures on these items to A. M. S. production estimates, by type-of-farming areas, as was used for adjusting numbers.

The production of beef and veal, lamb and mutton, and pork, are A. M. S. estimates for 1939. The A. M. S. State production per head (arrived at by dividing total production by numbers on hand January 1) was adjusted by type-of-farming areas on the basis of 1935 regional adjustment data, estimates made in the report "Food, Feed, and Southern Farms" and judgment. These production-per-head estimates were multiplied by the appropriate number and class of livestock to arrive at total production for each type-of-farming area. Where necessary, further adjustments were made in production-per-head figures, so that the sum of the production of all areas was the same as the State estimate of the Agricultural Marketing Service.

Methodology

Data pertaining to more significant enterprises, by major State type-of-farming areas, were prepared from 1940, 1935, and 1930 census figures. These data and assumptions were presented to representatives of the Agricultural Experiment Stations and Extension Services. Broad estimates of adjustments ("expected" and "desirable"), were obtained from these representatives. These broad estimates were made more specific by the workers of the B. A. E. These estimates by major State type-of-farming areas were summarized by broad subregions and by States. Representatives of the Agricultural Adjustment Administration and Soil Conservation Service were consulted to obtain information relative to various phases of their programs. Data obtained in the 1935 regional adjustment study and other pertinent research data were reviewed. Rough checks have been made to see that feed and livestock production are in line.

As previously stated, it was assumed that cotton acreage would be reduced 10 percent. A flat 10 percent reduction was applied to all areas for the "expected" situation. In the "desirable" situations a 10 percent reduction for each State has been applied, but differential adjustments have been made by areas; however, the sum of the decrease below the 10 percent reduction in a State are equal to or more than the sum of the increase above the 10 percent reduction.

In presenting the 1939 situation by type-of-farming areas, the figures were rounded to the nearest thousand; therefore, in some instances, State totals arrived at by adding subarea totals may not check exactly with census and crop estimate State totals.

Table 28.-- Assumed prices received by farmers, South Central States and for the United States, average 1943-45 1/

| Product | Unit | United States | Mississippi | Arkansas | Louisiana | Oklahoma | Texas |
|------------------------|-------|---------------|-------------|----------|-----------|----------|---------|
| | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Wheat <u>2/</u> | bu. | 1.10 | | 1.16 | | 1.08 | 1.09 |
| Rye | do. | .72 | | | | .93 | .96 |
| Corn | do. | .85 | 1.01 | .99 | .90 | .85 | .80 |
| Oats | do. | .45 | .82 | .70 | .73 | .51 | .53 |
| Barley | do. | .60 | | | | .64 | .61 |
| Rice | do. | 1.00 | | 1.00 | 1.01 | | 1.04 |
| Flaxseed | do. | 1.90 | | | | 1.69 | 1.86 |
| Soybeans | do. | 1.50 | 1.60 | 1.60 | 1.60 | 1.75 | 1.75 |
| Seed alfalfa <u>3/</u> | do. | 10.00 | | | | | |
| Hay: All classes | ton | 9.50 | 12.06 | 10.83 | 11.21 | 8.64 | 9.31 |
| Alfalfa | do. | 10.50 | 14.34 | 13.58 | 14.54 | 11.97 | 13.11 |
| Peanuts | lb. | .05 | .071 | .066 | .076 | .055 | .045 |
| Potatoes | bu. | .80 | 1.03 | 1.07 | .98 | .87 | 1.42 |
| Sweet potatoes | do. | 1.05 | 1.02 | 1.14 | .92 | 1.29 | 1.16 |
| Apples | do. | .95 | 1.52 | 1.04 | 1.48 | 1.24 | 1.40 |
| Peaches | do. | 1.00 | 1.17 | 1.14 | 1.24 | 1.35 | 1.17 |
| Oranges | box | 1.65 | 2.05 | | 2.24 | | 1.50 |
| Grapefruit | do. | .55 | | | | | .48 |
| Cotton | lb. | .15 | .15 | .15 | .15 | .14 | .15 |
| Cottonseed | ton | 40.00 | 42.00 | 40.80 | 38.80 | 36.80 | 38.80 |
| Hogs | cwt. | 12.00 | 9.96 | 9.84 | 8.76 | 11.28 | 10.92 |
| Beef cattle | do. | 11.00 | 6.93 | 8.03 | 8.03 | 9.68 | 9.24 |
| Veal calves | do. | 14.00 | 10.22 | 12.04 | 10.64 | 12.46 | 11.62 |
| Sheep | do. | 7.00 | 6.09 | 6.79 | 6.79 | 7.64 | 8.19 |
| Lambs | do. | 13.00 | 8.84 | 11.57 | 9.10 | 13.52 | 10.92 |
| Wool | lb. | .45 | .43 | .43 | .43 | .37 | .47 |
| Chickens | do. | .26 | .25 | .22 | .27 | .21 | .21 |
| Eggs | doz. | .33 | .30 | .29 | .32 | .26 | .29 |
| Butterfat | lb. | .40 | .37 | .36 | .34 | .34 | .34 |
| Milk (wholesale) | cwt. | 2.45 | 2.47 | 2.47 | 2.89 | 2.28 | 2.96 |
| Index numbers: | | | | | | | |
| Truck crops | index | 130 | | | | | |
| Fertilizer | do. | 110 | | | | | |
| Prices paid | do. | 141 | | | | | |

1/ The average State prices in this table have been computed by applying the ratio between the average 1935-39 United States farm price and the respective 1935-39 State farm prices to the assumed 1943-45 United States farm prices.

2/ The prices of cotton and wheat, even more than the others in this table, are based on special assumptions with respect to acreage and loan programs. They are not forecasts of what prices will be. 85% of Parity--55 million acres of wheat--20-22 of cotton.

3/ Price paid by farmers.

Table 30.-- Cotton acreage trends for selected subareas, 1920-40
(1930 = 100) 1/

| S U B A R E A | | | | |
|---------------------------------------------------------------------------------|--------|---------|---------|---------|
| Description | Number | 1920 | 1930 | 1940 |
| | | Percent | Percent | Percent |
| <u>Hill Area:</u> | 1. | | | |
| Eastern Hills, Mississippi | | 65 | 100 | 65 |
| Lime Belt, Mississippi | | 71 | 100 | 54 |
| Brown Loam, Mississippi & Louisiana | | 81 | 100 | 62 |
| Piney Woods, Arkansas, Oklahoma, Louisiana, Texas | | 86 | 100 | 48 |
| <u>Delta:</u> | 2. | | | |
| Mississippi, Arkansas, Louisiana | | 79 | 100 | 74 |
| <u>Gulf Coast & Rio Grande Valley Special Crops:</u> | 3. | | | |
| Coastal Plain, Mississippi & Louisiana: | | 43 | 100 | 64 |
| Gulf Coast Special Crops, Mississippi, Louisiana, & Texas | | 48 | 100 | 74 |
| Rio Grande Valley Citrus & Truck, Texas | | 21 | 100 | 62 |
| <u>Arkansas River Valley & Uplands,</u> Arkansas & Oklahoma | 4. | 102 | 100 | 45 |
| <u>Ozark-Ouachita Mountains,</u> Arkansas & Oklahoma | 5. | 147 | 100 | 44 |
| <u>Black Waxy Prairie, Texas</u> | 6. | 87 | 100 | 51 |
| <u>Gulf Coast Cotton, Texas</u> | 7. | 65 | 100 | 61 |
| <u>Texas-Oklahoma Cross Timbers & Grand Prairie, Texas and Oklahoma</u> | 8. | 119 | 100 | 39 |
| <u>Low Rolling Plains, Texas & Oklahoma</u> | 10. | 34 | 100 | 43 |
| <u>High Plains Cotton, Texas</u> | 11. | 10 | 100 | 71 |

1/ Based on census data for sample counties.

Table 29.- Prices received by farmers, South Central States
and for the United States, average 1935-39 1/

| Product | Unit | United States | Mississippi | Arkansas | Louisiana | Oklahoma | Texas |
|-------------------|-------|-----------------|-------------|---------------|----------------|----------------|----------------|
| | | Dollars | Dollars | Dollars | Dollars | Dollars | Dollars |
| Wheat | bu. | .82 | | .86 | | .80 | .81 |
| Rye | do. | .51 | | | | .66 | .63 |
| Corn | do. | .63 | .75 | .73 | .67 | .63 | .59 |
| Oats | do. | .29 | .53 | .45 | .47 | .33 | .34 |
| Barley | do. | .48 | | | | .51 | .49 |
| *Rice | do. | .73 | | .73 | .74 | | .76 |
| Flaxseed | do. | 1.68 | | | | <u>2/</u> 1.50 | <u>2/</u> 1.65 |
| *Soybeans | do. | .88 | 1.69 | 1.49 | 1.62 | 1.66 | 1.77 |
| Seed, alfalfa | do. | 10.97 | | | | 8.80 | 9.08 |
| Hay: *All classes | ton | 8.31 | 10.53 | 9.49 | 9.79 | 7.56 | 8.12 |
| *Alfalfa | do. | 9.54 | 14.36 | 13.68 | 14.60 | 12.00 | 13.16 |
| *Peanuts | lb. | .033 | .047 | .044 | .050 | .036 | .030 |
| Potatoes | bu. | .65 | .84 | .87 | .79 | .71 | 1.16 |
| Sweet potatoes | do. | .78 | .76 | .85 | .69 | .96 | .86 |
| *Apples | do. | .78 <u>3/</u> | 1.25 | <u>5/</u> .85 | <u>3/</u> 1.22 | <u>4/</u> 1.02 | <u>3/</u> 1.15 |
| *Peaches | do. | .88 | 1.03 | 1.00 | 1.09 | 1.17 | 1.03 |
| *Oranges | box | 1.18 | 1.46 | | 1.61 | | 1.07 |
| *Grapefruit | do. | .62 | | | | | .54 |
| Cotton | lb. | <u>6/</u> .10 | .103 | .099 | .100 | .091 | .097 |
| Cottonseed | ton | 25.31 | 26.60 | 25.77 | 24.54 | 23.39 | 24.53 |
| Hogs | cwt. | 8.27 | 6.88 | 6.78 | 6.02 | 7.80 | 7.53 |
| Beef cattle | do. | <u>7/</u> 7.25 | 4.54 | 5.30 | 5.26 | 6.38 | 6.09 |
| Veal calves | do. | <u>8/</u> 8.60 | 6.26 | 7.39 | 6.57 | 7.66 | 7.15 |
| Sheep | do. | <u>9/</u> 4.00 | 3.48 | 3.88 | 3.89 | 4.46 | 4.68 |
| Lambs | do. | <u>10/</u> 8.00 | 5.46 | 7.14 | 5.63 | 8.35 | 6.72 |
| Wool | lb. | .24 | .23 | .23 | .23 | .20 | .25 |
| Chickens | do. | .15 | .14 | .13 | .16 | .12 | .13 |
| Eggs | doz. | .21 | .19 | .18 | .20 | .17 | .18 |
| Butterfat | lb. | .29 | .27 | .26 | .25 | .25 | .25 |
| Milk (wholesale) | cwt. | 1.79 | 1.81 | 1.81 | 2.11 | 1.67 | 2.16 |
| Index numbers: | | | | | | | |
| Truck crops | index | 113 | | | | | |
| Fertilizer | do. | 100 | | | | | |
| Prices paid | do. | 124 | | | | | |

1/ Computations based on calendar year averages except where marked by asterisk, in which case crop-year averages were used.

2/ Only 1939 included.

3/ Only 1935, 1936, and 1937 included.

4/ Only 1935, 1936, 1937, and 1938 included.

5/ Only 1935, 1936, 1937, and 1939 included.

6/-10/ Adjusted from arithmetic average of .099 cents per lb. for cotton, and \$6.52, \$7.75, \$3.89 and \$7.78 per cwt. for beef cattle, veal calves, sheep, and lambs, respectively, with proportionate adjustments being made in State prices.

Table 31.-- Cotton yield trends for selected subareas, 1928-32, 1935-39 1/

| S U B A R E A. | | 1928-32 | 1935-39 | Change in acre |
|-------------------------------------------------------------|--------|---------|---------|------------------------------|
| Description | Number | average | average | yield, 1928-32 to 1935-39 |
| | | Pounds | Pounds | Percent |
| <u>Hill Area:</u> | 1. | | | |
| Eastern Hills, Mississippi & Louisiana: | | 180 | 273 | +52 |
| Lime Belt, Mississippi | | 154 | 241 | +56 |
| Brown Loam, Mississippi & Louisiana | | 162 | 266 | +64 |
| Piney Woods, Arkansas, Louisiana, Oklahoma & Texas | | 143 | 172 | +20 |
| <u>Delta: Arkansas, Mississippi, Louisiana:</u> | 2. | 229 | 369 | +61 |
| <u>Gulf Coast & Rio Grande Valley Special</u> | | | | |
| <u>Crops:</u> | 3. | | | |
| Gulf Coast Special Crops, Mississippi, Louisiana & Texas | | 191 | 236 | +24 |
| Rio Grande Valley Citrus & Truck, Texas: | | 196 | 180 | - 6 |
| <u>Arkansas River Valley & Uplands:</u> | 4. | | | |
| Arkansas, Oklahoma | | 155 | 141 | - 9 |
| <u>Ozark-Ouachita Mountains:</u> | 5. | | | |
| Arkansas, Oklahoma | | 125 | 117 | - 6 |
| <u>Black Waxy Prairie:</u> | 6. | | | |
| Texas | | 163 | 161 | - 1 |
| <u>Gulf Coast Cotton:</u> | 7. | | | |
| Texas | | 210 | 205 | - 2 |
| <u>Texas-Oklahoma Cross Timbers & Grand</u> | | | | |
| <u>Prairie:</u> | 8. | | | |
| Texas, Oklahoma | | 116 | 118 | + 2 |
| <u>Low Rolling Plains:</u> | 10. | | | |
| Texas, Oklahoma | | 128 | 121 | - 5 |
| <u>High Plains:</u> | 11. | | | |
| Texas | | 134 | 189 | +41 |

1/ Based on data from Agricultural Marketing Service for representative counties.

Table 32.- Trend in cattle numbers for selected subareas, 1920-40 ^{1/}
(1930 = 100)

| S U B A R E A | | | | |
|--------------------------------------------------------------|--------|---------|---------|---------|
| Description | Number | 1920 | 1930 | 1940 |
| | | Percent | Percent | Percent |
| <u>Hill Area:</u> | 1. | | | |
| Eastern Hills, Mississippi | | 160 | 100 | 144 |
| Brown Loam, Mississippi & Louisiana | | 113 | 100 | 130 |
| Piney Woods, Arkansas, Oklahoma, Louisiana and Texas | | 131 | 100 | 158 |
| <u>Delta:</u> | 2. | | | |
| Mississippi, Arkansas & Louisiana | | 171 | 100 | 174 |
| <u>Gulf Coast & Rio Grande Valley Special</u> | | | | |
| <u>Crops:</u> | 3. | | | |
| Coastal Plain, Mississippi & Louisiana: | | 183 | 100 | 154 |
| Coastal Flatwoods, Louisiana | | 39 | 100 | 133 |
| Gulf Coast Special Crops, Mississippi, Louisiana, & Texas | | 117 | 100 | 186 |
| <u>Arkansas River Valley & Uplands:</u> | 4. | | | |
| Arkansas, Oklahoma | | 155 | 100 | 114 |
| <u>Ozark-Ouachita Mountains:</u> | 5. | | | |
| Arkansas, Oklahoma | | 135 | 100 | 141 |
| <u>Black Waxy Prairie:</u> | 6. | | | |
| Texas | | 105 | 100 | 125 |
| <u>Gulf Coast Cotton:</u> | 7. | | | |
| Texas | | 87 | 100 | 112 |
| <u>Texas-Oklahoma Cross Timbers & Grand</u> | | | | |
| <u>Prairie:</u> | 8. | | | |
| Texas, Oklahoma | | 71 | 100 | 105 |
| <u>Low Rolling Plains:</u> | 10. | | | |
| Texas | | 123 | 100 | 124 |
| <u>High Plains Cotton:</u> | 11. | | | |
| Texas | | 138 | 100 | 118 |

^{1/} Based on census data for sample counties.

Table 33.-- Average annual volume and value of recommended cut from and labor needs of 200 acres of timber, Coastal Plains, Louisiana 1/

| Item | Volume | Unit | Value | | | Labor requirements | |
|-----------------------------------|--------|----------|----------|---------|---------|--------------------|----------|
| | | | Stumpage | Labor | Total | Per unit | Total |
| | | | Dollars | Dollars | Dollars | Man-days | Man-days |
| Forest products sold for cash: | | | | | | | |
| Sawlogs <u>2/</u> | | | | | | | |
| Pine | 36.2 | M bd.ft. | 217.20 | 36.20 | 253.40 | .1500 | 18.1 |
| Hardwoods | 2.6 | M bd.ft. | 13.00 | 2.60 | 15.60 | .500 | 1.3 |
| Pulpwood <u>3/</u> | | | | | | | |
| Pine | 16.2 | cords | 8.10 | 16.20 | 24.30 | .667 | 10.8 |
| Ties <u>4/</u> | | | | | | | |
| Hardwoods | 120 | ties | 18.00 | 18.00 | 36.00 | .100 | 12.0 |
| Total | xx | xx | 256.30 | 73.00 | 329.30 | xx | 42.2 |
| Forest products used on the farm: | | | | | | | |
| Fence posts <u>5/</u> | | | | | | | |
| Hardwoods | 100 | post | 2.00 | 3.00 | 5.00 | .020 | 2.0 |
| Fuel wood <u>6/</u> | | | | | | | |
| Pine | 4 | cord | 2.00 | 6.00 | 8.00 | 1.000 | 4.0 |
| Hardwoods | 16 | cord | 8.00 | 24.00 | 32.00 | 1.000 | 16.0 |
| Total | xx | xx | 12.00 | 33.00 | 45.00 | xx | 22.0 |
| Grand total | xx | xx | 268.30 | 106.00 | 374.30 | xx | 72.2 |

- 1/ Yields and requirements data from survey made in 1939 in Washington Parish, Louisiana, based upon average of best 10 percent of farm woodlands included in survey.
- 2/ Stumpage: pine \$6 per M board feet, hardwoods \$5 per M board feet, Doyle rule; \$1 value per M board feet added for felling and bucking into logs.
- 3/ Stumpage: \$0.50 per unit (4' x 5' x 8'); \$1 value per unit added for cutting and stacking pulpwood.
- 4/ Stumpage: \$0.15 per tie; \$0.15 value per tie added for tie hacking.
- 5/ Stumpage: \$0.02 per post; \$0.05 value per post added for cutting and hauling to field.
- 6/ Stumpage: \$0.50 per cord; \$1.50 value per cord added for cutting and hauling to house.
- 7/ Includes also 8.0 man-days for building fire lines, marking timber to be cut, supervising sales and scaling.

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